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HIGHLIGHTS REPORT

INTESEP
ABIDJAN WORKSHOP

7-10 June, 1994
Abidjan, Côte d'Ivoire

The International Development Research Centre
Le Centre de recherches pour le développement international
El Centro Internacional de Investigaciones para el Desarrollo

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1.0 Introduction

In response to Chapter 8 of Agenda 21 and its recognition of the need to reshape policy-related decision-making in a manner that integrates environmental considerations into development policy, IDRC identified the theme Integrating Environmental Social and Economic Policies (INTESEP), as a principal component of the Centre's Corporate Program Framework. INTESEP aims to: 1) identify ways to conduct research in a manner that fosters the integration of environmental, social and economic concerns in policy; and 2) develop communication and decision-making processes between and among researchers, policy makers and beneficiaries to enable the formulation of integrated policies.

INTESEP poses a complex challenge to our usual disciplinary and sectoral ways of identifying problems, conducting research and formulating and implementing policies. Addressing this challenge involves adaptive relationships between disciplines, sectors and institutions and responses that are regionally focused and culturally relevant. With this in mind, the INTESEP Working Group (WG), of IDRC, adopted an exploratory "learning by doing" strategy which involves consulting researchers in the various regions in order to foster culturally and politically appropriate approaches to addressing the triple challenge of interdisciplinarity, participation and policy relevance.

To carry out this strategy, the WG has initiated a research development activity which involves regional workshops and case studies in Africa, Latin America, Asia and Canada. The objectives of the activity are to explore the different interpretations of the INTESEP concept; the methodological implications of practicing INTESEP research; and to identify ways of promoting INTESEP research in the various regions.

The INTESEP workshop in Abidjan, Cote d'Ivoire, Africa was the WG's first step in carrying out its exploratory strategy. It was also one of the first efforts at presenting the INTESEP concept to the research community (a smaller INTESEP meeting had been held in South Africa the previous week). The workshop agenda is attached in annex 1.

The objectives of the workshop were to:

1. achieve a better understanding of how African researchers and policy makers conceptualize the notion of "integrated policies". Integrated policies refer to processes of decision-making that are based on research which integrates environmental with social and/or economic concerns;

2. identify the factors and conditions which constrain and foster research which integrates environmental with social and/or economic concerns and identify the challenges of translating such research into policies;

3. inquire into the capacity of researchers in the region to carry out integrated research;

4. make recommendations for the revision of the terms of reference for the INTESEP case studies; and

5. make recommendations for the implementation of the INTESEP Research Development Activity in terms of immediate follow-up activities and future workshops to be held in other regions.

The workshop was organized by IDRCs' east and west African offices in collaboration with the Ottawa Office and was co-hosted by Centre Universitaire Abobo-Adjamé in Abidjan Cote d'Ivoire. It involved researchers and policy advisors from francophone and anglophone Africa, reflecting a variety of disciplines and sectoral interests. Workshop presentations and discussions took the form of plenaries and focus group sessions.

The workshop was opened with speeches by Caroline Pestieau, Director General of IDRC's Social Sciences Division; Gerry Bourrier, Director of IDRC's west African office and by the Minister of the Environment from Cote d'Ivoire.

2.0 Concept Papers and Discussion

Two concept papers (from Kenya and Ghana), were commissioned for the workshop. The two authors were asked to outline, based on research experience, their understanding of policy research which integrates environmental with social and or economic concerns; to highlight the methodological characteristics of the INTESEP research process; and to identify the challenges of translating research into policy. The title of the papers were: 1) "Integrating Environmental Social and Economic Policies in Urban Planning and Development Research in Eastern and Southern Africa"; and 2) "Towards Integrated Research for Social Policy Development". The papers are attached in annex 2.

2.1 Conceptual Questions

The presentations provided an African context for discussion on the understanding and interpretation of INTESEP. Several methodological characteristics of INTESEP type research were identified in the presentations and discussions. Before these characteristics could be explored further some conceptual questions, which kept arising during the discussions, needed to be answered. The questions were: 1) What is the definition of environment in the context of the INTESEP theme? 2) What is distinct about the INTESEP concept and what does this imply for research? and 3) What are we trying to integrate, to what degree and at what level? Following is a synthesis, based on the workshop discussions, of the answers to these questions.

2.1.1 What does environment mean in the context of INTESEP?

There was considerable confusion around what the term environment did or should mean in the context of the INTESEP theme. Several participants felt that the term environment should include the political and cultural dimensions of the research issue in question. However, it was noted that the notion of INTESEP already included economic and social dimensions. Recognizing this, it was agreed that the term environment, in the context of INTESEP, pertains to biophysical systems (eg. flora and fauna, soils and minerals, water, air and the dynamic between these factors in the form of ecosystems). Political and cultural factors, in the context of INTESEP, are considered as social variables.

2.1.2 What is distinct about INTESEP and what does this imply for research?

INTESEP is considered distinct because: 1) It takes account of the recently (and only partially) acquired understanding of the limits which the (biophysical) environment places on the predominantly socio-

economic development agenda; and 2) it focuses on the implications of these limits for how we perceive, and in turn research, the relationships between environmental, social and economic systems and furthermore how we involve decision-makers and beneficiaries in the research and policy making process -- in other words how we integrate these concerns and actors into research and policy-making.

The fact that we are an expanding society living in a closed ecosystem forces us to revise our traditional perspectives and methodological tools which we use to formulate and research development problems. For example we have to revise our time horizons and include intergenerational distribution and limit our use of linear extrapolation in the face of discontinuities. We need new types of cost/benefit analysis; new ways of complementing quantitative and qualitative data gathering; new methods for gauging cumulative impacts on and minimizing irreversible changes to biophysical systems; new ways of measuring the carrying capacity of ecosystems; and finally the establishment and involvement of wider groups of well informed stakeholders in the research and policy-making process.

These new considerations in turn demand a significantly more accurate and comprehensive data base than presently exists in the South (eg. the identification and measurement of indicators in terms of the carrying capacity of biophysical systems and the impact of human activities on biophysical systems). An accurate and comprehensive data base was seen as particularly critical to conducting policy relevant research.

These and other factors will have an effect on the manner in which research problems are defined, data is gathered and analyzed as well as the way in which information is reported in order to inform policy. Furthermore, new types of arrangements within and between institutions, beneficiaries and decision-makers[1] may be necessary to effectively employ different research methods and inform policy. Finally, efforts to influence policy through a more applied research process will involve focusing on policy processes and interactions in order to seize opportunities that present themselves in changing political environments and changing state and civil society relations.

2.1.3 What do we want to integrate and to what degree and at what level?

The goal of INTESEP research is to foster the development of integrated policies. Integration in research and policy can occur both horizontally and vertically. Horizontal integration in research aims to understand the relationships between environmental, social and economic activities in order to promote the constructive relationships and minimize the negative relationships through the development and implementation of integrated policies. Vertical integration aims to involve decision-makers and beneficiaries in the research and policy-making process. Vertical integration between various levels and types of government (eg. national, regional and local and traditional and modern) is also necessary to encourage greater policy coherence.

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[1]Decision-makers refer here to government official who have a direct or indirect influence on the formulation of policies. They may include ministers, policy advisors, planners and mangers at the national, regional and local level of government. In some cases they may also include traditional leaders (eg chiefs and elders). A deliberate decision has been made to focus on the public sector.

Participants agreed that policies, depending on the context, can be integrated to varying degrees and consequently may demand varying degrees of integration in research. In some cases, integrated policies may not imply any need for integrated (multi or interdisciplinary) research. Some issues will call for a high degree of integration such as the socio-economic implications of wetlands management for local communities. This instance would involve the integration of social, economic and environmental concerns through interdisciplinary research methods as well as the involvement of beneficiaries, decision-makers and various levels of government. Other issues may demand the integration of environmental with economic concerns (eg. regulating the environmental impacts of mining), in which case economic frameworks incorporating environmental variables may be sufficient. Still other policy issues may involve the synthesis of secondary data from disciplinary research to formulate integrated policies.

In terms of vertical integration the participation of beneficiaries and policy-makers as well as the harmonization of levels of policy was viewed as generally desirable. Roundtables and multistakeholder groups which incorporate mediation and conflict resolution techniques are often employed to foster participation, encourage the integrated understanding of issues and promote policy coherence at various levels of government. These types of mechanisms can serve both the research and policy formulation processes.

3.0 INTESEP Research Methods and Implications for Capacity Building

Workshop participants agreed that a more comprehensive understanding of the interdependence between environmental (biophysical), social and economic systems is necessary to effectively inform integrated policies which aim to minimize the adverse impacts of social and economic development on the biophysical environment. In terms of accomplishing this, they viewed INTESEP as a welcome initiative.

Participants agreed that, in the context of INTESEP, environment pertains to biophysical systems, that INTESEP was distinct, and that the goal of INTESEP is to foster the formulation of integrated policies. Hence the conceptual question - **what** - had been addressed. The section of the report explores, (through the experience of workshop participants) the question of **how** .

A presentation by Sunita Kapila from IDRC, on "The Interdisiciplinarity in INTESEP" introduced the notion of interdisciplinary research as one way to conduct INTESEP research. Following is a summary of the paper on Interdisciplinarity. The complete paper is attached in annex 3.

3.1 The Interdisciplinarity in INTESEP

The purpose of this presentation was to provide an overview of interdisciplinary research as a concept and to outline some of the constraints and guiding principles involved in practicing interdisciplinary research.

Interdisciplinarity is a process whereby a pooling of knowledge contributes to a more comprehensive and integrated understanding of complex problems or issues. If one were to draw a continuum reflecting degrees of integration, the left point would reflect loose consultations, the mid-point multidisciplinarity and the final point interdisciplinarity.

Key Features of Interdisciplinarity:

- involves both horizontal (i.e. across disciplines/sectors) and vertical (i.e. among policy-makers, researchers, beneficiaries) integration; [why?]
- lacks exclusive clear cut methodologies found in most disciplines;
- higher up front costs in terms of money, time and people are balanced by more insightful and comprehensive research results;
- is characterized by the three 'C's' for effective interdisciplinarity: **C**ollaboration, **C**ooperation and **C**ommunication.

Interdisciplinary research can be divided into four stages:

1) **Preparation: Planning the Research (problem identification, team selection)**

- problem definition is a participatory process involving relevant disciplines/sectors, policy makers, beneficiaries and other stakeholders;
- all involved must develop a shared understanding of the problem at hand;
- selection of disciplines for the research team responds to the problem or research question under consideration;
- choice of an effective team leader is essential to the success of the project.

2) **Data Collection and Analysis**

- analytical and conceptual structures that are used by each discipline have to be amenable to translation into the others;
- must be adequate opportunities to exchange data, consult with other researchers, beneficiaries and policy makers.

3) **Synthesis**

- synthesis requires not an accumulation of various findings but rather an integration of the research components;
- team leaders must balance the input from each researcher while remaining focused on the problem and not distracted by competing disciplinary assumptions.

4) **Presentation of Findings**

- synthesis should be presented in a format amenable to existing policy mechanisms;

- findings should be in ordinary language (free of jargon) thereby both avoiding confusion and encouraging public debate on the issue.

Ms. Kapila raised four questions that in her mind needed to be addressed when considering interdisciplinary research as a method: 1) Are we diluting methodological rigour to the lowest common denominator? 2) How do you measure the impact of interdisciplinary research vis a vis other research methods? 3) What is our capacity to conduct interdisciplinary research? 4) What responsibility do we have as researchers to promote the interdisciplinary understanding of issues?

The presentation introduced the term *horizontal integration*, in terms of the research process, as tracing and understanding relationships between disciplines and sectors, and the term *vertical integration* as involving beneficiaries as well as decision-makers at various levels of government levels. Interdisciplinary research is recognized as the most challenging as well as being very time and resource demanding as compared to multidisciplinary research, or the synthesis of disciplinary research to form an integrated understanding of a given issue. As one means to conduct research that promotes integrated policies, the concept of interdisciplinarity provided an entry point for workshop participants to reflect on their own experiences, challenges and successes in conducting integrated research.

3.2 Experience from the Field: Factors Contributing to the Success or Failure of INTESEP Research

The participants made short presentations of their experience(s) in conducting INTESEP-type (or more generally integrated) research. In several cases, both horizontal and vertical integration were seen as desirable. Experience also revealed that integrated polices did not necessarily require interdisciplinary research and that, as indicated earlier, the degree and nature of integration, was a function of the specific policy-research issue. General constraints and specific methodological issues, relevant to integrated policy research, were identified by the participants.

The first general constraint identified was that Agenda 21 (let alone the development of integrated policies) is not a priority on the African political agenda. African governments are primarily preoccupied with the ongoing structural adjustment crisis as well as with facing the challenges posed by internal political and social conflict and subsequent reconstruction. It was agreed that a concerted effort by research institutes, academic institutions, NGO's[2], donors and advocacy groups would have to be made to raise the profile of Agenda 21 issues and furthermore, to connect these concerns to the broader issue of regional and global security.

The second general constraint identified was the need to establish a comprehensive data base that reflected human - (biophysical) environment interactions at the national regional and local level and make this data base accessible. Professor Syagga pointed out in his paper that in order to properly research ecological variables, data on ecological indicators would have to be generated. For example, indicators

[2] Non Government Organizations (NGOs) refer to organizations of civil society that represent and advocate on behalf of a specific interest or sector of the population (eg. poverty, environment, women, church groups, youth, professional associations, business, indiginous people).

that reflect the contamination levels of soil, air and water in a given ecosystem and in turn indicators of that ecosystem's ability to maintain its resilience in terms of biodiversity (or ability to sustain life); or indicators that reflect the cumulative affects of, for example, farming on a given watershed.

Finally, connected to the development of a data base, the issue of capacity building in terms of training and core funding was viewed as central to promoting INTESEP research in Africa. It was pointed out that core funding for institutes and schools would have to be made over the long term if data bases and training programs were to be developed to close the capacity gap in terms of both integrated research and policy formulation. More will be said about capacity building in section 3.3.

From the presentations and discussions three types of methodological issues were identified. These categories of issues were used to formulate questions to guide the focus group sessions that took place on the third day of the workshop. The focus groups were asked to explore the issues in terms of specific examples of past research in which they had been personally involved. The three groups identified several methodological factors relevant to conducting INTESEP research. Summaries of the focus group discussions are attached in annex 4.

The following factors are not necessarily relevant to all INTESEP research but are viewed as a composite list of selectively relevant variables and methodological questions. Furthermore, the factors identified are general in nature and relate primarily to the conditions that are perceived necessary to effectively conduct INTESEP research.

3.2.1 Horizontal Integration (Organizational Process and Research Methodology)

The first group of factors relates to horizontal integration. The aim of horizontal integration is to trace and understand the linkages between disciplines and sectors, in terms of a given research issue, in order to formulate policy which minimizes the negative and builds on the positive relationships between envrionmental (biophysical), social and economic activities. These factors focus on the organization and practice of integrated research. Organizational factors focus on the process and working arrangements for conducting INTESEP research. In terms of practice, factors include: data collection and analysis instruments and tools; disciplinary leadership; data base; and the role of various disciplines in determining and carrying out research methodology.

Organizational Process/Working Arrangements

- **Leadership** - Are research leaders necessary? If so, how are they chosen? What role should leaders play - intellectual, administrative or other? What types of leadership characteristics are necessary to foster the design and implementation of integrated research methods?

- **Research Team Organization** - Who should be on the research team in terms of disciplines, decision-makers, and beneficiaries? What types of working arrangements are necessary to develop integrated policy-research methods in terms of fostering effective communication processes, team building and the resolution of conflict between disciplines and sectoral interests?

- **Attitudes** - What types of attitudes foster team-work in terms of cooperation and collaboration between disciplines in order to develop integrated research methods?

- **Incentives/Award Systems** - What type of incentives and award systems (in terms of institutional norms, structures and procedures) promote the practice of integrated policy-research?

- **Cost and Time** - How does collaboration (ie. meetings, administration) affect the time-frame and cost? How can this be justified and managed? Identify the costs, benefits, and potential trade-offs.

Research Methods

- **Instruments/Techniques** - What data collection (qualitative and quantitative) and analysis techniques should be utilized? How are research techniques from various disciplines used in a complementary manner? How are they used to examine the relationships between environmental social and/or economic policies?

- **Research Problem and Objectives** - From an integrated policy perspective, what are the pre-requisites to defining the research problem and setting research objectives?

- **Data Collection and Analysis Tools, Techniques and Frameworks** - What data collection, processing and analysis tools/techniques/frameworks are used to effectively study the issue from an integrated perspective?

- **Role of Disciplines and Institutions** - What roles do various disciplines play? Sould one discipline take the lead? If so how is this be decided and what should be the nature of the role be? What types of institutional structures, procedures and mechanisms need to be in place in order to foster integrated research processes.

- **Data Base** - What types of data should be available in order to support the research? Is an adequate data base available and accessible (particularly in terms of environmental indicators eg. state of the environment data)? How will the research contribute to the data base?

- What role do **environment (biophysical) variables** play? Are they integrated into economic or social policy research frameworks or visa a versa? What types of environmental indicators are used to examine the relationships between environmental, social and economic activities?

- **Scientific Rigour** - Does the integration of research methods from disciplines compromise scientific rigour or the legitimacy of the research in the eyes of colleagues?

- **Participation** - How are decision-makers, advisors, beneficiaries, contributing to, or influencing, the design of research methods? How will this be arrranged (to promote and foster utilization)? What challenges could result from their involvement? What will this imply, if anything, for scientific rigour?

- **Training** - Is training part of the research process? How is this managed?

Some of the above factors were emphasised more than others. In particular, the characteristics of a research team leader and the attitudes of researchers toward collaboration and the integration of research methodologies were seen as critical determinants of success or failure. Participants were also particularly

concerned about the implications of crossdisciplinary methods for the overall scientific rigour of the research.

3.2.2 Vertical Integration (Participation, Research-Policy Link)

The second group of factors relates to vertical integration. These factors focus on the involvement of decision-makers, beneficiaries and various levels of government in the research process and the implications of their involvement for research utilization at both the local and policy level.

Research-Policy Link

- **Involvement of Decision-makers** - What decision-makers should be involved in the research process? What arrangements facilitate their involvement? What stages of the research process are they involved in (eg. problem definition, design and implementation of methods, dissemination)? What is the nature of their involvement? What factors contribute to the success or failure of involving decision-makers, (ie. factors in formulating the research problem, designing research methodology, communication of results)?

- **Policy-Making Process** - How might conventional policy-making processes constrain the utilization of research results? How is the research process linked to the policy-making process in order to foster utilization?

- Are the research results be used directly or indirectly in policy? What types of arrangements are made to foster policy utilization or influence (eg. roundtables, policy workshops (interim and end), dissemination - policy notes etc)? How are results disseminated in a manner that facilitates utilization?

- **Reporting and Dissemination** - What types of communication, reporting and dissemination strategies are employed to encourage the utilization of research results in policy?

Role of Beneficiaries, Community Groups and Other Stakeholders

- **Participation** - What role should beneficiaries play in the research process (ie. problem definition, data collection and analysis, reporting)? How is participation arranged? What are the constrains and trade-offs to involving benificiaries? What are the benifits?

- **Utilization** - How is involvement arranged to foster and promote utilization directly or indirectly? How are results disseminated to participants and will dissemination promote or constrain utlization?

- **Expectations** - Will participation raise the expectations of beneficiaries in terms of outputs, outcomes and follow-up, if so in what way? How can this be managed?

- **Conflicts** - Is there potential for conflict between stakeholders if so how can this be managed?

- **Policy Influence** - How might the involvement of beneficiaries, community groups and other stakeholders influence policy utilization directly or indirectly? If so how?

Utilization of research results by decision-makers and beneficiaries can be promoted significantly by vertical integration in research. Involvement of decision-makers at the problem definition stage can be used to stimulate the demand (bridging the demand gap) for policy research. Participation can take place formally; where decision-makers define the research problem and commit to adopting research recomendations or actually commission studies; and informally where decision-makers are consulted and brought into the process in a more gradual manner. The involvement of beneficiaries and other stakeholders can also facilitate utilization at the community level as well as the policy level through lobbying and public pressure.

3.2.3 Institutional Roles, Support and Capacity

The third group of factors relate to institutions, in particular, the types of institutions involved and their roles in promoting INTESEP research. These factors also include institutional structures, procedures and arrangements which promote or constrain the integration of environmental, social and economic concerns in the research and policy formulation process.

- **Types** - What types of institutions are involved (eg. local and national government, academic, NGO's, community groups etc)?

- **Roles** - What is the nature of their role? Which organization should play the lead role? How are other institutions brought in to the process?

- **Institutional Norms, Structures and Procedures** - How might institutional norms, structures and procedures facilitate or constrain research across disciplines and sectors? (For example, did Universities play a facilitative or constraining role in the integration process, particularly in terms of promoting. an interdisciplinary understanding of issues?) What role can institutions play in promoting vertical integration (eg. Did NGO's help facilitate the involvement of beneficiaries)?

- What types of institutional arrangements and procedures promote the integrated understanding of issues and the utilization of research in policy directly or indirectly (ie. policy workshops, roundtables, innovative forms of dissemination)?

- **Policy-Making Process** - What institutions and organizations are traditionally involved in the policy-making process? How might involvement or lack of involvement facilitate or constrain the utilization of research results?

- **Conflicts** - What types of conflicts may develop between institutions (eg. NGO's and Universities; NGO's and government departments; Universities and government institutions)? How were these conflicts managed?

- **Incentives/Disincentives** - What incentives or disincentives facilitate or constrain integration (eg. pressure to publish, individual professional recognition)?

- **Donor Influence** - What role do donors have in defining the research agenda? How could donors play a more effective (constructive) role?

Participants emphasised the constraints imposed by institutional norms and organizational structures on conducting INTESEP research. They agreed that there was a need to establish incentives to develop processes, procedures and arrangements that foster collaboration between disciplines in academic institutions, government departments and between the various levels of goverment. It is also important to define the roles of various institutions and the individuals within them (eg. policy advisors, academics, planners, managers), when defining INTESEP research issues, conducting research and formulating policies. Moreover the trend toward decentralization and the devolution of authority will precipitate a demand for training in environmental policy, planning and managment and policy coordination between levels of government.

An issue raised but not sufficiently addressed was the role of NGO's in the research and policy formulation process. In particular what are the funding implications for academic institutions of increased funding for NGO's? Furthermore, what are the implications of NGO involvement in research for medium and long term policy influence? These and other questions will have to be explored in subsequent workshops.

The factors identified above focus primarily on the research process. It was noted throughout the four days that understanding policy-making processes was critical when attempting to translate research into policy. While this has been identified in the above outline of factors, more consideration will have to be given to understanding policy-making processes and the implications for research utilization.

3.3 Implications for Capacity Building

The variables and questions outlined above have several implications for capacity building. Participants emphasised the following:

1) **Development and Management of Data Bases:** As stated earlier participants pointed out that a major constraint to INTESEP research was the need for core institutional support in order to develop and manage data bases particularly in terms of data on the impacts of human activities on ecosystem resilience.

2) **Education and Training on Integrated Research Methods:** There is a need, in both the North and South, for education and training on how to study and research the relationships and linkages between environmental, social and economic activities. Training is also needed to foster cooperative, collaborative **attitudes** in individuals and within institutions in terms of conducting integrated research.

3) **Understanding of Policy Processes:** There is a need to understand how to formulate comprehensive policies and to translate the integrated understanding of issues into policy.

4) **Capacity to Formulate Demand for Policy Research:** There is a need to strengthen decision-makers capacity to define problems in an integrated manner and in turn to effectively formulate demand for policy research.

5) **Institutional Structures and Arrangements:** New types of institutional structures that foster integrated research and policy formulation need to be promoted at the government, academic and research institution level. Managers, planners, academics and policy makers need to be the target

of education and training which focuses on working arrangements, procedures and processes that foster collaboration, cooperation and communication.

6) **Understanding the Roles and Developing the Capacity of Local Governments:** In view of the trend toward decentralization there is a need to build capacity at the regional and local government level to formulate and implement environmental policy.

The fourth day of the workshop focused on identifying INTESEP research opportunities in Africa and possible follow-up activities for IDRC in terms of promoting INTESEP research. Section 4.0 of this report outlines the research opportunities identified by the workshop participants. Section 5 will draw some conclusions and outline the next steps for IDRC.

4.0 INTESEP Research Opportunities in Africa

Participants identified several research opportunities, some of which correspond to the capacity building issues outlined in section 3.3. These opportunities included both research on specific issues as well as on the research and policy-making process. These opportunities are not intended to be definitive but reflective of INTESEP research opportunities as defined by the workshop participants.

1) **Decentralization and the Role of Local Governments in Environmental Policy, Planning and Management.** Including research on:

- the decentralization of authority for environmental planning and management;
- the pros cons and trade offs between regulation and deregulation - the circumstances/situation where regulations are appropriate vs circumstances where deregulation is an appropriate strategy;
- the development of integrated urban environmental management plans; and
- participation in urban policy formulation - how to build on and integrate (not stifle) local expertise and capacity while making effective use of outside technical expertise.

2) **Understanding and Developing Innovations in National and Local Policy-Making Processes.** Including research on:

- the formulation of integrated policies and the use of innovative mechanisms such as roundtable and multi stakeholder groups in the formulation and implementation of policy;
- examine the issue of territoriality and the role of academic institutions, research institutes decision-makers, in terms of INTESEP; assist the above in defining their responsibility and comparative advantage in a collaborative manner;
- explore modes and techniques of communication with policy makers in terms of the conception of research problems and the dissemination of research results; what types of workshops are effective; at what stage in the process are they most useful

- examine existing environmental policies and how they have been created; examine the processes of formulating national environmental action plans and how they can be more effectively designed and implemented.

- lessons learned from National Development plans in terms of linkages or lack of between sectors and between beneficiaries, NGO's, researchers and policy makers - how can these linkages be better traced and reflected in plans.

3) **Lessons Learned From IDRC's Project Development Experience**

- examine past and ongoing IDRC INTESEP-type research projects in Africa to determine what lessons can be learnt and how these can be used to guide research methodology?

4) **Review of National Environmental Action Plans**

- review national action plans to identify the demands and needs of decision-makers as articulated in the plans in order to stimulate the identification of research needs.

5) **State of the Art Review of Environmental Policies in Africa**

- conduct research on existing environmental policies in Africa, how they were formulated, what they include, how the intersectoral linkages are traced and integrated, the identification of best practices and lesson learned from failures.

5.0 Conclusions and Next Steps

The Abidjan workshop set out to develop a shared conceptual and methodological understanding of INTESEP. Preliminary indications, from both IDRC staff and participants, reveal that the workshop was successful in defining the notion of INTESEP and the methodological processes of integrated research.

In deliberately planning a exploratory workshop to allow for the development of an African understanding of INTESEP and to enable participants to share in the process and outcome, there was a risk of confusion and frustration around the ambigious nature of the INTESEP concept and its potentially far-reaching boundaries. While frustration and confusion prevailed the first day, the second and third days proved more productive. Overall the exploring strategy seemed to succeed, particularly because of the high calibre of participants combined with their experience and apparent dedication to the notion of integrated research together with the presence of 10 IDRC staffers with a more or less common understanding of INTESEP.

The Abidjan workshop focused primarily on the research process. It was established that integration can occur both the horizontal and vertically in both research and policies. It was agreed however, that integrated policies did not necessarily necessitate integrated research and that in fact integrated policies could sometimes be effectively formulated through the analysis of secondary data from disciplinary research. This resulted in the modification of the first objective of the workshop to read integrated policies are refered to as processes decision-making that are based on research which integrates

environmental with social and/or economic concerns; or on the analysis and synthesis of secondary data from environmental, social and/or economic research.

With this said, workshop participants presented and discussed (in plenary and focus groups) their experience in conducting policy relevant integrated research. The discussions and focus group sessions identified several factors that contributed to the success and failure of INTESEP research. In most cases the factors outlined reflect the conditions that are necessary for conducting INTESEP research. It can be said that these conditions create an "environment" in which INTESEP research can be successfully practised. These conditions, in turn, have a direct effect on what an INTESEP research problem looks like; the methods (ie. approaches and tools) used to gather, process and analyze data; and how the research results are communicated and disseminated.

The specific implications that these conditions have for the research process can be generalized to some degree but, by in large, will be specific to the policy-research issue in question. The role that these conditions play in creating the "optimum" environment for INTESEP research, and the implications these conditions have for research methodology needs to be explored further. In order to achieve this, research on specific policy issues will have to be examined. This may be an effective way to build on the Abidjan workshop's results in any subsequent workshops.

As emphasized in the workshop, in order to effectively conduct research to promote integrated policies, an understanding of the policy-making process and political environment is necessary. Again the type of policy issue in question will have considerable influence on the nature of the policy-making process. This may also be an issue for future workshops.

In conclusion, the Abidjan workshop has assisted the INTESEP WG in defining some of the key conceptual boundaries to INTESEP. The experience of workshop participants has helped identify methodological factors and related questions, relevant to INTESEP research. While these methodological factors remain at a general level in terms of their relevance to any given policy research issue; they can be used to guide the identification and exploration methodological approaches for specific issues.

5.1 INTESEP Definition

It may now be time to reformulate a definition of INTESEP. This would provide a benchmark from which to compare the concept to other similar concepts in order to determine, more specifically, what distinguishes INTESEP, from these. Identifying distinguishing characteristics would lend to the further development of INTESEP conceptually and in practice. The following is a proposed definition to serve these purposes:

INTESEP seeks to develop and promote research to:

i) identify and understand the relationships between environmental and economic systems; environmental and social systems; or environmental, social and economic systems in order to formulate integrated policies which attempt to minimize the negative and build on the positive relationships;

ii) assess and develop policy and planning mechanisms to identify and develop innovative tools, methods and strategies to equip researchers, planners and policy-makers to better understand and foster the integration of environmental with social and/or economic concerns; and

iii) study inter-organizational and institutional arrangements and decision-making processes that foster collaborative relationships among individuals and organizations in order to promote the development of policy processes which foster the integration of environmental with social and/or economic concerns.

Note: It is assumed that: 1) "environment" pertains to the biophysical environment; and 2) in most cases, economics is the apparent dominant paradigm (social concerns may in some cases constitute the dominant paradigm); and that INTESEP research will integrate environmental (biophysical) concerns with economic and/or social policy concerns. This is not to say that INTESEP promotes the prominence of economics but rather through promoting and fostering the integration of environmental (biophysical) concerns into policy, INTESEP research will assist decision-makers in recognizing the significance and relevance of these concerns.

5.2 Next Steps for IDRC

As stated in the introduction, the Abidjan workshop was the first in a series of activities aimed at developing a clearer understanding of INTESEP, its challenges and opportunities in Africa and elsewhere. The following is an outline of the activities that resulted directly from the Abidjan meeting together with activities originally planned as part of the Research Development Activity.

TOR Revision - One objective of the workshop was to make recommendations, based on the workshop findings, for the revision of the case study draft terms of reference based. Some minor recommendations were made including emphasising the need to better understand policy processes. After further discussion among IDRC staff it was decided that, IDRC needed to know more about the factors of success and failure outlined in section 3.2 of this report and in particular what they mean for the stages of the research process. Consequently the TOR will be revised to incorporate these factors along with the recommendations that come from the workshop.

Case Studies from African Experience - The paper "Integrating Environmental, Social and Economic Policies in Urban Planning and Development Research in Southern Africa will be revised by Professor Syagga, based on the outcome of the workshop, as one case study. In addition a case study will be written on an IDRC integrated policy research project in Ghana entitled "Wetlands Management", conducted by Friends of the Earth, Ghana.

African INTESEP Projects - Two INTESEP projects are being planned for East and West Africa. These projects will involve participants from the workshop. The purpose of these projects will be to conduct INTESEP research while at the same time monitor the research process for the factors of success and failure outlined in section 3.2 of this report.

African INTESEP Newsletter - The IDRC participants from East and West Africa agreed to initiate an INTESEP newsletter. The first edition of the newsletter will be distributed in August/September 1994.

Additional Workshops - Two additional workshops are planned for Latin America and Asia. The first of these will take place in Latin America sometime early in 1995. Meetings will be held with INTESEP WG members to identify constructive ways to build on, rather than replicate the African workshop.

Case Studies from Asia, Latin America and Canada - In addition to the African case studies, other case studies will be comissioned in Latin America, Asia and Canada. Theses case studies will be based on the revised terms of reference.

ANNEX I

WORKSHOP AGENDA AND PARTICIPANT LIST

INTEGRATING ENVIRONMENT, SOCIAL, AND ECONOMIC POLICIES (INTESEP)
Abidjan, Côte d'Ivoire, June 07-10, 1994

OBJECTIVES

The objectives of this meeting are as follow:

1. to achieve a better understanding of how african researchers and policy makers conceptualize the notion of "integrated policies". Integrated policies refer to processes of decision-making that are based on research which integrates environmental with social and/or economic concerns;

2. to identify the factors and conditions which constrain and foster the translation of integrated researcn into integrated policies;

3. to inquire into the level of capacity of researchers in the region to carry out integrated research;

4. to make recommendations for the revision of the terms of reference for the INTESEP case studies; and

5. to make recommendations for the final work plan for the INTESEP Research Development Activity in terms of key issues to be explored, and other workshopd to be held.

AGENDA

Tuesday June 7th

8:00 **Registration**

9:00 **Welcoming and Introduction Opening Speeches (Chair: Gérald R. Bourrier)**

Gérald Bourrier
Caroline Pestieau
Minister of Higher Education and Scientific Resarch (Côte d'Ivoire)

10:30 **Break**

11:00 **Meeting Objectives and Agenda (Chair: Sibry Tapsoba)**

The objectives of the meeting will be presented and the meeting agenda will be outlined and formally adopted.

12:30 **Lunch**

2:00 **Presentation of African Case Studies (Chair: Osita Obgu)**

The two African case studies will be presented by the case study leaders. The presentations will be followed by discussions. The presentations will be followed by discussions focused on the conceptual and methodological understanding of integrated policy research and the factors and conditions which constrain and foster the translation of integrated research into policy.

5:00 **Adjourn**

Wednesday June 8th

9:00 **Synthesis of Day 1/Outline of Day 2 Agenda (Chair: Réal Lavergne)**

The synthesis will recapture the conceptual and methodological understanding of integrated research and the factors and conditions for conducting integrated research and fostering the use of research into policy.

9:30 **Presentation by Sunita Kapila**

Sunita Kapila from IDRC Ottawa will present a working paper titled "The Interdsiciplinarity in INTESEP". The purpose of the presentation is to provide an overview of intersdisciplinary research as a concept and methodology. The paper focuses on the application of interdisciplinary policy research methods for integrating environmental with social and/or economic concerns. The presentation will be followed by a discussion focused on the relevance, challenges and necessary conditions for conducting interdisciplinary policy research in the African context.

10:30 **Break**

11:00 **Experience from the Field: Examples of Successes and Challenges (Chair: Gérald Bourrier)**

Participants will briefly present their experience with conducting policy research which integrates environmental with social and/or economic concerns. The presentation will aim to highlight the factors and conditions to conducting integrated policy research. This session will conclude with the identification of key questions to be addressed in order to develop INTESEP research in Africa.

12:30 **Lunch**

2:00 **IDRC Presentation (Chair: Mamadou Sissoko)**

IDRC will present a background statement on the origins and rational for the INTESEP research theme. The presentation will include a synthesis of concerns identified by IDRC, based on experience to date. The discussion will focus on questions/comments from African participants on INTESEP.

4:00 **Break**

4:30 **Summary of Conceptual and Methodological Questions Raised**

The final session of the day will summarize the concerns identified by IDRC and the African participants in terms of conducting integrated policy research and fostering the use of research in policy. The conclusion of this session will identify a set of questions which reflect the concerns raised.

5:30 **Adjourn**

Thursday June 9th

9:00 **Synthesis to Date/Outline Day 3 Agenda (Chair: David Brooks)**

A summary of the questions identified on day 2 will be presented. The agenda for day 3 will be outlined.

9:30 **Working Groups**

Participants will be divided into working groups based on the questions identified during day 2. Each working group will focus on one type of question(s) and explore the concerns reflected in the question(s) and the ways in which the question(s)/concern(s) can be addressed.

12:30 **Lunch**

2:00 **Working Groups Continued**

Each working group will be asked to synthesize their findings and present them in a final plenary session.

5:00 **Break**

5:30 **Group Plenary**

Working groups will be asked to report back to the plenary. The report of each working group will include a definition of the problem, the strategy through which that problem can be addressed and the identification of methodological steps to overcoming the problem.

7:30 **Reception**

Friday June 10th

9:00 **Synthesis of Group Reports/Outline of the Day's Agenda (Chair: Caroline Pestieau)**

A summary of the group reports will be presented highlighting the key conceptual and methodological questions which remain unanswered and an outline of directions proposed to address questions.

9:30 **Case Study Terms of Reference**

The draft case study terms of reference will be tabled by the IDRC. A brief presentation will be made highlighting the areas where the TOR does not address the questions raised during the meeting. Participants will be asked to comment on the TOR and recommend changes.

12:30 **Lunch**

2:00 **Identification of Research Opportunities**

4:00 **Closure & Break**

4:30 **Next step: Closed Meeting (Chair: Caroline Pestieau)**
Business Meeting for IDRC staff only

LIST OF PERSONS CONTACTED FOR THE ABIDJAN INTESEP MEETING

WARO

1. Rigobert ADEGBINI
   CREDESA Benin

2. Olu AJAKAIYE
   NISER

3. Kofi D. AGYEMAN
   University of Cape Coast
   GHANA

4. Tade AINA
   CODESRIA
   DAKAR

5. Mumpasi LUTUTALA
   Université de Kinshasa
   Département de Démographie
   Faculté d'Economie

6. Victor DOULOU
   ACBF Brazzaville
   CONGO

7. Souleymane OUATTARA
   Institut Ethno-Sociologie
   Abidjan COTE D'IVOIRE

8. Jean ETTE
   CEPRASS Abidjan
   COTE D'IVOIRE

9. Medjomo COULIBALY
   USAID/REDSO
   Abidjan (COTE D'IVOIRE)

10. SOME Jean Baptiste
    INSE
    Université de Ouagadou
    BURKINA FASO

11. Mme Daoulé BA
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12. Florence Ebam ETTA
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EARO

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7. Dr Mafa Sejamenane
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11. Mr Joseph Mugore
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12. Prof P M Syagga
Chairman
Department of Land Development
University of Nairobi
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ANNEX II

CONCEPT PAPERS

TOWARDS INTEGRATED RESEARCH FOR SOCIAL POLICY DEVELOPMENT

A WORKING PAPER FOR DISCUSSION
SUBMITTED THROUGH THE IDRC
TO THE
THEME WORKING GROUP :
INTEGRATING ENVIRONMENTAL
SOCIAL AND ECONOMIC POLICIES

BY

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APRIL, 1994

CONTENT

1.0 INTRODUCTORY NOTE -

SIGNALS TO INTEGRATED APPROACH IN AFRICAN SOCIAL STUDIES

In the 1970s a number of renowned African social scientists and Africanists including scholars like Samir Amin, Jack Goody, O. Onoge, Issa G. Shivji, Thomas Hodgkin, Archie Mafeje and Anouar Abdel-Malek, to name only a few, contributed chapters to a book which was edited by C.W. Gutkind and Peter Waterman under the title African Social Studies - A Radical Reader. (Gutkind and Waterman 1977). The importance and/or relevance of this book is not so much the fact that the collection called for a radical approach to the way of looking at social, economic, historical and political issues in Africa. More importantly the collection gave hints to the need for integrated approach to the study of African history, sociology, economics and politics.

In an introductory chapter to the collection Peter Waterman described the then emerging approach as a "syncretic radical theory" (p9) and, whilst admitting with Brett (1973) "the difficulty of producing a coherent alternative approach which will lead to a viable programme of action", agreed that though it may be accused, among others, "of eclecticism and frequently for lack of rigour , it cannot be accused of asking ... relevant questions" (p10).

Since these inspiring statements were made the notion of integrated approach to the study of social, economic and political issues of Africa has been on the lips of many scholars, yet no one has examined the phenomenon, defined its limits or catalogued its content. In a sense African scholars (this is true for other third world country scholars) have been talking about integrated social, economic and political studies and research but no attention has been given to the study of the nature and

form that it should take, its possibilities and limitations. This introductory paper is an attempt both to open up the subject for debate and to direct attention to some of its possibilities and limitations.

2.0 INTEGRATED, INTER-DISCIPLINARY AND MULTY-DISCIPLINARY RESEARCH

2.1 Interdisciplinary - Multidisciplinary Research - The Contrast

Research, in short, is a scientific endeavour to arrive at the heart of the "truth" of the matter under investigation. Because traditionally each discipline had its conception of the 'truth' peculiar to its professional ethic, research tended to be mono-disciplinary. And even within the same discipline different schools of thought tended to approach the same issue strictly from their theoretical perspective. It was in an attempt to break this monistic or one-dimensial approach to the study of African social, economic and political issues that Abdel-Malek called for the marriage (emphasis mine) of Weber and Marx in African Scholarship (Abdel-Malek, 1974: 62-75).

Sadly this exhortation has not led to what could clearly be the starting point for integrated research and theory building. At best it promoted inter-disciplinary approach to research, and at worst multi-disciplinary approach to research.

According to M. Stacey (1969) whereas inter-disciplinary research "involves links being forged between members of a research team drawn from different disciplines" (and we may add from different schools of thought within the same discipline) multidisciplinary research "involves team members from different disciplines being involved in separate studies within a broad area" (See Robert G. Burgess (ed) 1982:165). Defined this way it can be argued that whereas inter-disciplinary approach comes

closer to integrated research, multi-disciplinary approach is far off from its. This is illustrated by two examples given by Robert G. Burgess in his contribution titled Multiple Strategies in Field Research (Burgess:165).

In a study of children in a hospital (Stacey et al. 1970) an inter-disciplinary team of sociologists and psychologists was called to work together to understand individual and collective facets of the problem. In these circumstances, the members of the inter-disciplinary research team had to establish common problems and common knowledge and developed a common theoretical link, in order to relate their disciplines. The problem in these circumstances however, as Luszki (1957) argued is that "such teams may generate interpersonal problems that can lead to difficulties in communication among team members" (Burgess (ed):165). The advantage in this approach however outweighs its disadvantages in that, if successfully executed the results of an inter-disciplinary research can lead to inter-linked projects.

In contrast a multi-disciplinary project involving researchers from differnt disciplines working on separate studies produces results which can hardly be put together for an inter-linked project. An example cited by Burgess was the study of the Lower Swansea Valley whereby six University departments focused upon one geographical area to see how it could be restored. In these circumstances each department conducted its own investigations (and) informed the other departments of its work. But since there was no common theoretical link the results gave a variety of perspectives of the problem and made inter-linked project identification and policy difficult.

2.2 Integrated Research - A Working Definition

The lessons that these illustrations give are:

1) inter-disciplinary research promotes establishment of a common problem and common knowledge and leads to the development of a common theoretical link
2) multi-disciplinary research promotes a variety of perspectives to a common problem
3) whereas inter-disciplinary research can easily lead to inter-linked project, multi-disciplinary research is far from doing so.

It would appear therefore that inter-disciplinary research is the basis for integrated explanatory models. Integrated explanatory model however does not preclude multidisciplinarity. Ideally, integrated research should be one which is both inter- and multi-disciplinary in character and execution. Integrated research therefore is more than the sum total of both inter- and multidisciplinary research put together; it requires a synthesised knowledge and a common frame of reference derived from the various disciplines required to pursue a given problem and develop a unitary solution to it.

This is an ideal situation. Ideal situations are, however, rare. Indeed there are only a few cases that can be pointed to as conscious effort to adopt an integrated research approach to deal with social, economic and environmental problems and thereby form a basis for the formulation of integrated social policy.

3.0 SOME ATTEMPTS AT INTEGRATED APPROACH TO RESEARCH AND SOCIAL POLICY FORMULATION

Some conscious, though gradual and staccato, efforts to foster integrated approach to research in social policy have been made through the

introduction of Social Planning in Africa. Both Margaret Hardiman and James Midgley on the one hand and Diana Conyers on the other in their works on The Social Dimensions of Development - Social Policy and Planning in the Third World (1982) and An Introduction to Social Planning in the Third World (1982) respectively give a list of areas where integrated research is called for or where such researches are being undertaken. They include (i) Poverty, inequality and development; (ii) Population growth and population policy; (iii) Rural development problems; (iv) Health and Sanitation; (v) Education and (vi) Housing. We shall discuss only two of these to illustrate lessons that may be learnt for integrated research in the generality of social and environmental sciences. The two areas are:

(1) Rural Development Studies and

(2) Health, Sanitation and Population Studies

3.1 Integrated Rural Development Studies

As a result of the failures of previous approaches to rural development plans and/or strategies it has now become fashionable to talk about integrated rural development approach.

According to one writer, Kodwo Ewusie the integrated model of development appears to be based on the "social scientists' reconstruction of the physical scientists' systems theory. It was first applied by Whyte in his Money and Motivation to the behaviourists' exchange theory; later it was adopted to the theory of development by UN Agencies in the mid-sixties" (K. Ewusie: The Meaning of Integrated Rural Development and Its Implications for the Data Needs of Planners, 1977). Applied to rural development studies and research integrated approach is seen to be basically a management strategy implying a systematic effort at reducing rivalries

and increasing collaboration among specialised agencies and disciplines so that their efforts and activities can become mutually re-inforcing.

The basic elements of the integrated rural development approach appear to be:

(a) that all agencies or elements operating towards the same goal should be so organised that their activities mutually re-inforce one another and maximize goal achievement thorugh recycling of complementary resources; and

(b) that an integrated service model should encompass all recipient populations, ie. beneficiaries and specifically should involve all those who have hitherto been excluded or marginalized from the process of planning and implementation.

Four broad objectives have been identified in integrated rural development studies. These objectives may also be regarded as the ingredients for formulating integrated rural policy. They are:

(i) ethno-scientific objective: This involves the development and the use of indigenous systems of knowledge as basis for development planning. Currently observers have come to the realization that previous development projects and plans have neglected the views of the rural people for whom development plans and projects were designed and/or implemented. The result was that rural plans were careless of the interests and the real needs of the rural people. The ethno-scientific goal aims at developing and using indigenous systems of knowledge in order to obtain a local world view which will be the basis for all plans and projects affecting the rural people. Two studies carried out - one by a group of social scientists in Dakar, called ENDA (1980) and the other by Agyeman (1987) have confirmed that the rural people in

different parts of Africa have a well articulated view of what development entails and what priorities are needed to attain their goals and that each rural community has its specific needs and priorities. These needs and knowledge should form the basis for integrated research into rural issues.

(ii) The psycho-sociological objective: This involves the promotion of self-reliance among the rural people by making them utilize their inherent leadership and expertise. The fact is that following from the first goal discussed above, past experience in rural development shows that the rural people have been neglected in the formulation and implementation of rural development plans. Integrated rural development strategy seeks to reverse this trend and involve the rural people in the formulation and implementation of rural development plans. In this context "local problem solving capacity, initiative and originality" are to be added to those of the experts whose perception of the rural reality usually is myopic. Mhlanga's work (1970) and Agyeman's survey (1987) confirm the need to involve the rural people in rural development project formulation and implementation in order to make them active rather than passive recipients of rural development.

(iii) Administrative objective:

A third objective of integrated rural development strategy is to foster efficiency of services thorugh co-ordination of administrative and organizational groups. As was found out in the case of sectoral approach to rural development, lack of co-ordination among the several agencies involved in aspects of rural development more often than not leads to dissipation of efforts and duplication. The aim of integrated development is to integrate

and co-ordinate such agencies in order to avoid competition among the agencies and between government agencies and local units and thus save the farmer from confusion and victimization and abuse as a tool.

(iv) Economic objective: The fourth and final objective of integrated approach to rural research and social policy is to generate income and distribute it equitably among the people who are both benefactors and beneficiaries of the income and establish employment through increasing use of local resources and thus provide more and better social amenities and welfare for the people.

3.1.1 Lessons to be Learnt

The case of integrated rural development research and policy is a good lesson for integrated social research for national development. The point however is that it is easily said than done. Its implimentation depends on both social scientists and policy makers. The former must be prepared to shed off its old skin of academic Monism and learn to be multi-dimensional in their thinking and doing. The latter must develop the political will to communicate with researchers no matter how divergent their views might be.

3.2 Health, Sanitation and Population Studies

The second area of studies whose effort at integrated approach is worth considering is that of Health, Sanitation and Population.

Since the United Nations declared that the issue of Health is no longer the preserve of the medical profession, because health implies more than the act of curing diseases and includes sanitation and environmental cleanliness, efforts have been made to adopt an integrated approach to the study of health and the formulation of health policies in several African countries.

The results are however far from successful. The issue however is not to examine the success, or otherwise, story of this approach. Admittedly the integrated approach in this area is very much handicapped and is in its infancy, compared with that of rural development studies.

3.2.1 Creation of Data Base Through Integration

One major constraint in this area of integrated approach is the absence of adequate and reliable data. For example morbidity statistics based on epidemiological studies of the evidence of specific diseases are rare and unsatisfactory; similarly infant mortality rates and crude death rates are unreliable. The fact is that in many African Countries, as in many other Third World Countries, it is a taboo to report causes of death or sickness to government authorities, becaue they believe that these are caused by spirits or magic.

Again statistics on population per physician, nurse and hospital bed ratios are highly unreliable because no proper records are kept in most of the health centres. Further more figures on health expenditure are hard to come by; those that are available are unsatisfactory.

These constraints however have served as a blessing in disguise , in that it has forced researchers to adopt an approach which blends demography, ethnography, epidemiology, medical sociology and medical geography all in one survey project. Demography gives indicators such as crude death rates and life expectancy at birth, infant mortality rates and maternal mortality rates. These are used as indications of the state of health of the population. Epidemiology gives insight into the nature and path of communicable diseases in the population. Ethnography and sociology direct attention to the belief systems and socio-cultural practices of the people. Medical geography plots the distribution of the sanitary and

environmental conditions of the population.

3.2.2 Implications for Social Planning

The creation of integrated data-base through the use of demography, epidemiology, ethnography, sociology and geography has invaluable implications for social planning. The data generated gives insight into the demographic indicators, morbidity and mortality state of the people, the people's level of awareness and health practices as well as the state of government's input and the people's preparedness for participation in the provision of health services for themselves. To plan a useful, sustainable health services all these data are required as inputs.

As the demographic indicators, morbidity and mortality data, people's awareness and health practices and geographic spread indicate, it has become quite clear that illiteracy, poor standards of information education and communication (IEC) and cultural practices have all 'conspired' to produce the state of ill health - especially communicable diseases - in Africa. A plan of action to raise the Health status of the people would thus have to include public education on the inter-relationship between population control, cultural practices, environmental cleanliness and participatory communal development.

At the formal education level this raises the question of curricular innovations to integrate the disciplines of demography, epidemology, ethnography, sociology and geography. Through the introduction of the new educational reforms culminating in the establishment of Junior Secondary Schools and Senior Secondary Schools in Anglophone West Africa modest efforts have been made to teach what is referred to as social and environmental studies which introduces children to these areas in an integrated manner. The institutions of higher learning in these Anglophone countries of Sierra Leone, Nigeria, Ghana and the Gambia have a long way

to catch up with the curricula of the pre-tertiary institutions.

3.3 Lessons For Integrated Social Science Research

Despite the teething problems which integrated Health, Sanitation and Population Studies have, it promises to be a good paradigm for advancing a general integrated social science research model. This is because it does not just bring different disciplines under an umbrella; it is based on one common frame of reference, which is the health of the people and it ends with the proposition of a unitary solution, namely raising the quality of life of people through information, education and communication of the people; and projects that encourage conscientisation and participation of the people in the development of themselves and the communities are recommended.

Examples of such integrated health, sanitation and population studies and projects have been going in Kenya, Nigeria, Burkina Faso, Senegal, Cameroon and Ghana since 1990 under the direction of the African Population Advisory Committee (APAC). This project has adopted the principle of "going to the people, learning with them to identify problems and finding solutions together". Thus rather than call the project a research it has been christened as "exercise". It also relies heavily on a blend of quantitative and qualitative data collection and analysis and what the people, who are the beneficiaries of the outcome of the 'exercise', perceive to be their problems, their needs and priorities.

Whereas it is too early to talk about the success story of the exercise it can be said that it promises to change the traditional approach to family planning and population control programmes which, though have been ongoing for over thirty years in places like Kenya and Ghana, have achieved minimal results. (See African Population Advisory Committee: African Population Programs - Status Report, Washington D.C. 1993).

Commenting on its integrated approach to Health and Population programmes the APAC wrote: "The pilot exercise provided an opportunity for the professionals to listen to community members addressing issues of main concern to their own lives. In this way population issues moved away from a narrow discussion of family planning into dialogue with individuals and communities on how population and family planning programmes can be put in the context of other development programmes and improvements in the quality of life "(APAC, The African Agenda For Action - Improving the Implementation of Population Programmes in Sub-Saharan Africa, 1990, p6).

4.0 INTEGRATED SOCIAL SCIENCE RESEARCH - ONE FRAME OR SEVERAL FRAMES OF REFERENCE?

In the light of the lessons that can be learnt from the cases of integrated Rural Development and integrated Health, Sanitation and Population studies the question that arises is whether there can be (or there is) one frame of reference or several of them. The experience thus far would tend to favour the development (or emergence) of several frames of reference rather than one frame of reference of integrated social science research.

The fact is that each set of problems calls for a construction of an integrated research design relevant and adequate to the solution of the problem. As implied in the definition of integrated social science research attempted at the beginning of this paper the generic structure of integrated research would be valid for all cases; but each specific case would have to construct its own integrated framework, for an integrated research conducive to the solution of one problem may not be appropriate or adequate for another problem. Thus for example an integrated rural studies framework may not be adequate for integrated Health,

Sanitation and Population Studies. Similarly the two frameworks will not be suitable and/or adequate for an integrated study of Education, Economy and Environment.

5.0 CAPACITY BUILDING FOR INTEGRATED RESEARCH

The remarks made above lead to the question of capacity building in integrated research.

It has already been pointed out that although signals for the need for integrated social science research goes back to the 1970s very little has been done to reform institutions of higher learning and research to change their traditional academic habits in favour of integrated studies and research. Yet there are seeds of integrated studies and research scattered in some institutions of higher learning in Africa south of the Sahara. Some of them are the Nigerian Institute of Social and Economics Research (NISER), the Ghanaian Institute of Statistics, Social and Economic Research (ISSER), the Kenyan Institute of Development Studies (IDS), the Ghana Centre For Development Studies (CDS) and the Ugandan Institute of Statistics and Applied Economics (ISAE), to name a few.

These institutions and centres have only to introduce programmes of teaching which will produce graduates who are trained to approach issues from an integrated perspective. This will be a starting point for building a pool of human resource for appreciating integrated research in the social context. My hunch is that even if the teachers (taken individually) of these institutions and centres fail to present their courses in an integrated manner, the graduates that come from them will not fit into the pigeonholes of traditional disciplines. A lot could be learnt from the Institute of Development Studies (IDS) at the University of Sussex, Brighton and the Institute of Social Studies (ISS) at the Hague.

In the long run, however, the traditional social science departments in the institutions of higher learning will have to be made to take a cue from the reforms taking place at the pre-tertiary levels of education and adapt their teaching and research programmes to the new needs of the society. This change will call for an amalgamation or fussion of existing departments into new departments which reflect clusters of areas that require integrated studies and research.

6.0 FOUNDATION FOR CAPACITY BUILDING

Although these traditional mono-disciplinary departments in the institutions of higher learning have virtually no senior staff who have themselves taken courses in integrated social science and policy analysis, most, if not all of them, have the foundation upon which they can build integrated methodologies and theoretical frame of reference. Four areas for building the foundation of integrated social sciences readily come to mind. These are:

(1) Research methodology: This course should be organised as a common programme for all social science students irrespective of their departments in the Faculty. This is possible because research methods in the social sciences are the same whether a student studies political science, economics, sociology, demography, etc.

(2) Statistics: Similarly there is no difference between statistics applied in the different departments of the social science faculty. Indeed the trend towards blending of qualitative and quantitative data collection and analysis in the social sciences

in even departments such as economics and demography which pride themselves of parametric statistics is a clear indication that a common programme in statistics could and should be organised for all the disciplines in the faculty.

(3) Philosophy and structure of the social sciences: This is a course which is fundamental to all the social sciences. It teaches the principles and the ethics that govern the social sciences as human sciences. Since all the social sciences at the end of the day are supposed to serve the society, ie. the civil society, their ethical perspectives and objectives cannot be different. Thus they must be given a common frame of reference as far as the beneficiaries of their scientific endeavours are concerned.

(4) Application of scientific results: This final point of integration derives from the third point. That is to say, if the end product of each one of the disciplines is to benefit the people of the civil society, then application of their results must have a common base. The common base in this case is social policy. To that extent, all the social sciences must have a common course in social policy.

The contention of this paper is that it is not difficult to introduce these four programmes as foundation courses compulsory for all social science students in all social science faculties.

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INTEGRATING ENVIRONMENTAL, SOCIAL AND ECONOMIC POLICIES (INTESEP) IN URBAN PLANNING AND DEVELOPMENT RESEARCH IN EASTERN AND SOUTHERN AFRICA

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MAY, 1994.

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1. INTRODUCTION

1.1 INTESEP AND SUSTAINABLE DEVELOPMENT

1.1.1 Integrating Environmental, Social and Economic Polices (INTESEP) is a theme that has gained importance from the report of the World Commission for Environment and Development (WCED, 1987) and the subsequent Earth Summit (UNCED 1992). It aims at reshaping policy-related decision making to effectively integrate environmental considerations into developmental activities. It aims to promote the design and implementation of policies which reflect the interdependence of social, economic and environmental systems so as to achieve sustainable development. WCED defined sustainable development as development that meets the needs of the present without compromising the ability of the future generations to meet their own needs."

1.1.2 The primary purpose of sustainable development is to promote efficient use of natural resources, reduce poverty and strengthen human institutional development. As stated in principle 1 of Earth Summit, "Human beings are at the centre of concerns for sustainable Development". Further, Principle 4 of the Summit states that "In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and can not be considered in isolation from it." Therefore protection of natural resources and other environmental concerns is not a goal in itself, but rather a necessity for ensuring sustained quality of life for human beings. In this context INTESEP is essentially a theme for ensuring promotion of sustainable development."

1.2 RELIANCE OF INTESEP IN AFRICA

1.2.1 The overall objective of INTESEP is to promote sustainable development in the context of policies that integrate efficient use of environmental resources, reduction of poverty and strengthening of human and institutional development. This becomes particularly relevant in Africa where most recent studies have painted a gloomy picture of economic and ecological crises. In Africa environmental degradation and poverty are locked in vicious cycle so that where one is found, the other not far behind. The poverty-environmental degradation cycle is widening at a frightening pace. This cycle can be narrowed and eventually broken if sustainable development, as an environmental management system becomes the norm. Economic fortunes of most of the countries in the Eastern Africa region for instance rely on the natural resource base. For instance, Kenya's economic fortunes rely on the ability of its natural resource base to support the agricultural products necessary for local use and export. The country relies on only 18% of the population, the rest of land area being arid or semi-arid. Thus the ecological basis for Kenya's economy is delicate and requires careful management. In this respect the integration of environmental considerations into development strategies is a crucial matter of national welfare and long-term survival. The challenge facing Kenya and other countries is how well environmental considerations are likely to be integrated into macro-economic policies and development plans. Such efforts would be part of changing perceptions on the link between environment and development.

1.2.2 Further south in Zimbabwe, inspite of present rhetoric regarding movement away from the purely conservationist focus towards broader sustainability context which appreciates both human and resource sustainability the environment debate remains a conservative input dominated by sophistry of

Northern-based environmental modelling (Gore et al, 1992). Confusion remains between environment and development linkages as evidenced by pursuance of development programmes without a structural environmental perspective. A methodology linking environment economics or social policy remains unclear and elusive given lack of institutional development and political commitment.

INTEGRATING ENVIRONMENT AND SOCIAL POLICY CONCERNS

1.2.3 In the context of INTESEP there is urgent need for integration of environmental concerns in social policy matters such as decentralization and participation of NGOs and marginalised groups in environmental planning and management. This is particularly relevant in respect of urban management, where throughout sub-saharan Africa local authorities are inefficient and therefore unable not only to provide new services to keep up with urban growth, but equally the maintenance of existing facilities and services is poor. Thus local authorities are unable to provide sustainable development on their own, and hence the need for decentralization and participation of NGOs and marginalised groups, although this is yet to be realized.

1.2.4 The lack of incorporating environmental policies such as into social concerns and achieve desired objectives is not easy. Lack of legal authority, cross-purposes at different levels of government (central, provincial, local) or lack of control over private actors limit the ability of policy-makers and implementors to achieve environmental objectives. Sustained availability and optimum use of natural resources, such as water from a specific acquisiter and vulnerability of an environmental hazard, such as flooding in a specific flood-plain, depend on combined efforts of settlement activities in different sectors of government, at different points in time. Thus environmental policies should commit the relevant actors whose co-operation is required either in the form of legally enforceable standards or codes, required procedural mechanisms, or other mutually agreed conventions among agencies. Participants in decision-making should represent all agencies and interest groups affected by the resulting policy and whose co-operation is necessary for policy implementation. Policy formulation and implementation among most of the governments in the region is top-down rather than bottom-up for fear of loosing control from power. Legally enforceable standards and codes of practice on environmental issues that would allow decentralization and subsequent supervision and monitoring are largely absent.

1.2.5 INTEGRATION OF ENVIRONMENTAL AND ECONOMIC POLICY CONCERNS

The sustainability that concerns us is not about ecology and sustaining environments. It must meet the essential needs for jobs, energy, water and sanitation and achieve sustainability of both human and natural resources. Sustainable development should include economics and ecology in decision making at all levels.In order for this to be achieved there is need for relevant information on quantities, qualities and locations of key environmental resources, hazards and other significant features in the region; capacities and sensitivities of environmental resource systems to different types and magnitudes of developmental activity at various locations; current and projected environment/development interrelationships. This information should be refined and updated so as to be always grounded in current environmental and development realities. Herein lies the problems of policy makers in the region. Few countries in Africa have parameters developed to measure sustainable development in economic terms. Traditional studies on environmental impact assessment using cost benefit analysis are not sufficiently grounded in measuring social costs or benefits arising from environmental degradation. For instance, construction activities that exploit river sand or clay do not consider the environmental impact and hence the need for rehabilitation. The laws that exist could have been good when the

resources were thought to be infinite but are no longer appropriate in the light of expanding population and diminishing resources.

1.2.6 There is need to develop appropriate tools such as taxation, charges and other economic incentive/disincentive mechanism in development programmes. Taxation, charges and other economic incentive/disincentive mechanisms provide opportunities for using government-controlled market forces to influence optimum use of environmental resources. Ideally, these mechanisms are designed so that each activity pays for the complex social cost it imposes by consuming or degrading resources or by increasing natural hazards (UNCHS/UNEP, 1987). Aside from encouraging compliance with environmental policies the tool promotes the most economical overall use of environmental resources and it provides revenues that can be used for regeneration of environment and for assisting those who carry the burden of environmental degradation. These mechanisms can only be effective in countries where the tradition of tax paying and control are well established. In Africa, and particularly in Eastern and Southern Africa region where most countries favoured socialist policies (e.g. Tanzania and Zambia), the tradition of tax paying is the exception rather than the rule. Equally methods of taxation and collection are underdeveloped. This negates the integration of environmental concerns in economic policies, though usefulness of such an integration cannot be underscored.

INTEGRATION OF ENVIRONMENTAL, SOCIAL AND ECONOMIC POLICY CONCERNS

1.2.7 This draws from the need to integrate environmental concerns into social and economic policies. The importance of this integration lies in achieving sustainable development. Both social and economic policies are concerned with redressing human suffering and improving quality of life. Accordingly there will be need to provide information and educate the public about the environmental problems and how the government proposes to solve them. General public awareness is an important part of effective environmental programmes not only because the action of individuals and community groups can make important contributions to natural resource regeneration and management and can reduce exposure and vulnerability to environmental hazards, but because implementation of government projects depends very much on community support. This is equally important in the use of economic tools since it is the community that will appreciate the need for taxation or regulatory mechanisms.

1.2.8 However, information available shows that most of the countries have not taken into serious consideration the importance of long-term environment conservation. According to Kariro and Juma (1989), although the conservation message has been given political legitimacy, in Kenya, for instance, the capacity of the existing institutions to develop and implement sustainable conservation programmes is still limited. The available knowledge on natural resource management and economic policy is still limited and there is a need to embark on more systematic efforts to collect and analyze information to enable key policy makers and practitioners to identify viable policy options.

2 INTEGRATED POLICY RESEARCH

2.1 RELATIONSHIP BETWEEN INTESEP RESEARCH AND PARTICIPATORY RESEARCH

2.1.1 Social science research to guide policy has not been as effective as the purely technological research, such that today scientific knowledge is available but how to apply it to the human situation is still uncertain. It is this important niche that remains to be fulfilled by social scientists. It will involve policy oriented research addressed to environmental concerns in agriculture health, urban development etc. As a rule the majority of decision makers, at the technical level in most governments are social scientists and a few natural scientists. There has been a tendency to go for easy options and working under influence of politicians, short-term options without due regard to long-term sustainability. Consequently there have been numerous failed intervention programmes in development. The need to ensure acceptability and maintain ability of interventions has led many to look at the value of participatory methods to help match beneficiary needs and realities with development initiatives and thereby contribute to greater local control and sustainability of efforts (Baldwin and Cervinskas, 1991).

2.1.2 The above observation is particularly relevant to INTESEP research whose purpose is to inform policy-making and promote the design and implementation of policies which reflect the interdependence of social, economic and environmental systems. This INTESEP research is not only multi- and inter-disciplinary in approach, but gives special consideration to interdependence of social, economic and environmental concerns. In terms of research-policy nexus, INTESEP research can use the tools of participatory research (PR) so that real dialogue is promoted between researchers, policy makers and beneficiaries.

2.1.3 However, while PR has the benefits of greater interaction between the researcher and community members, greater multidisciplinarity and action oriented, it needs to be appreciated that in developing countries most of the research is funded by external agencies who have their own expectations and desire for boundaries on research process. Another challenge of PR is to maintain a critical, discriminating stance so that the approaches are used in more informed ways, appropriate to the goals and context of a particular setting or study. One should not grab for a new method, a new approach to research and development without subjecting the approach and its methods to rigorous assessment and analysis, and judicious use.

2.1.4 In the context of integrating environment with social and/or economic concerns, PR becomes relevant. PR approach is problem-centered and action oriented. The researcher has a subjective commitment to the target community and to the betterment of the human condition. As such the research can contribute to giving the marginalised population a channel to express their problems and their views regarding relevant solutions. This will enrich the understanding of cultural relieve in which the scientific and research process takes place. In PR the research process is collaborative, and people's knowledge is respected. Not only is more research time spent in and with community, community members themselves become involved in the research e.g. identification of research questions, selection of methods of data collection and analysis. The existence of various forms of knowledge and valid, popular knowledge that results from a person's sociocultural heritage and practical experience is accepted. What may remain difficult is to determine who participates in the community. The complex reality of power relations in community acts to favour different levels of participatory activity for individuals, dependent on factors such as age, gender, socio-economic status, family background etc. Implicit in PR is the notion that there is greater benefit when the type and number of people who

participate are enlarged. This need would best be addressed by selective participation strategies, and that local forms of decision-making exist that provide for popular representation but do not necessarily reflect the same values and norms for participation that are held by outsiders.

2.2 CONSTRAINTS TO INTESEP RESEARCH

2.2.1 The volume of research and documentation and development policies in Africa lacks prioritization, identification, and indeed understanding of environmental issues. In the countries of Eastern and Southern Africa the state of environmental considerations in the national development plans as well as urban physical development plans are either ignored or casually mentioned mainly because of following reasons:

2.2.2 The inadequacies of state policies to deal with the range of environmental issues and difficulties confronting the state in mobilizing consensus in pertinent issues. This is coupled with inertia to enact appropriate legislation to govern resource distribution, allocation, access and management. In Kenya, for instance, National Environment Secretariat in the Ministry of Natural Resources and Environment drafted a sessional paper on environment for consideration by the Government over five years ago but to-date no action has been taken. Kenya therefore has no comprehensive environmental policy, other than a series of pieces of legislation touching on various aspects of environment. Most of these laws, particularly those concerned with the exploitation of natural resources such as mining, forestry, construction, energy are dated and totally inappropriate in terms of sustainable development Syagga, 1994a).

2.2.3 An underdeveloped environmental management skills at all levels, reflecting the absence of generally accepted environmental management tradition, rendering local environmentalists uncritically receptive to imported modelling from the North. Environmental management should consider political and ethnical feasibility of its programmes.

2.2.4 The lack of commitment and investment by national governments in environmental management, research and man-power training. It is not so much that environmental information on which a policy of sustainable development must be based is missing, it is the rudimentary, often qualitative and very detailed nature of the information that is tailored to quantitative environmental objectives. This requires investment to determine indicators to be used in (i) Planning (problem identification, allocation of socio-economic resources and policy assessment) and (ii) communication (notification, mobilization and legitimization of policy measures).

2.2.5 The lack of adequate experience in mobilizing popular participation in the formulation and implementation of policies. In this respect research has a role to play. Research is about generating new knowledge and solving problems. Research can either help planners to select the interventions that will be taken into specific contexts or help to improve interventions. As already mentioned, one approach which is gaining ground in assisting research to effectively contribute to development is that of increasing the participation of people from the community into various states of the research cycle. Whether called participatory research (PR), participatory action research (PAR) or participatory evaluation (PE), the methods can enable communities to assess and initiate development activities to their own benefit. The need to ensure acceptability and sustainability of interventions has led many to look at the value of participatory methods to help match beneficiary needs and realities with

development initiatives and thereby contribute to greater local control and sustainability of efforts. INTESEP research is amenable to PR approach to research.

2.2.6 An insufficient treatment and understanding of the differences of access by different social and economic groups which has influenced environmental programmes. Policies on informal sector and small scale enterprises, self-help programmes etc. seem to be concerned more with rationalistic and socio-economic approach without considering ecological perspectives or the poverty environmental degradation cycle.

2.2.7 A growing tendency for international agencies to introduce environmental conditionality into their aid programmes without full comprehension and commitment to its implications. Even in the developing world of the North the search for indicators of sustainable development is a continuing debate in economic planning and environmental management. Various models are being proposed and continually revised using simulations. However, it has been appropriately observed that the problem in sustainable development modelling is that indicators such as material welfare, environmental quality, renewable resources and amenity are all very interdependent, so that the only good model to base predictive indicators on, is a comprehensive man-environment systems simulation model (Kuik and Verbruggen, 1992:68). This means coupling indicator variables with well-measurable systems and policy variables. In many African countries appropriate legislation, regulatory and fiscal instruments with which to implement and monitor programmes of man-environment system model are absent. For instance, many countries such as Kenya do not have appropriate pollution standards or appropriate energy rating for buildings, thus making it difficult to implement and monitor policies on resource use, energy conservation and pollution control. (Syagga, 1994b).

3. URBAN PLANNING AND DEVELOPMENT RESEARCH IN EASTERN AND SOUTHERN AFRICA

3.1 THE SCENARIO

3.1.1 Despite the significance of urban areas to national development in the countries in the East Africa region, urban policy makers, programme designers and planners have in the past tended to ignore cultural, social and psychological realities in dealing with urban centres. They have also tended to ignore the ecological limitations on the physical carrying capacity of urban centres to absorb by-products of human activity. Within this understanding, policies were set, programmes and physical master plans for land use established solely on the principle of maximizing productivity and totally lacking the human face. This pattern has led to disappointing failures and waste of both monetary and human resources, and has aggravated environmental degradation - poverty cycle.

3.1.2 Infrastructure deficiencies, inappropriate regulatory urban policies dealing with urban land and housing, weak municipal institutions and degraded urban environment are basic characteristics of urban centres in the region. Environmental degradation affects the poor most. The poor lack adequate sanitation and solid waste collection and disposal services. Evidence exists regarding a host of obsolete institutional and legal regulations that do not allow access by the poor to infrastructure, services and the improvement of their environment. Lack of consideration for women's activities when planning for social and infrastructure investments in urban areas retards the role of women in economic development and poverty reduction.

3.1.3 This paper poses to examine three case studies from Kenya on land use planning to determine how environmental issues are integrated in this field. Equally the paper poses to examine the methodologies used in three case studies and how far such approaches link research with policy. The case studies have been chosen because by their nature they are multi-disciplinary and environmentally relevant.

3.1.4 The three case studies are: Land Use Planning in Provincial Towns in Kenya and Measures for Strengthening the Implementation of Rural Trade and Production Centre Programme (RTPC) in Kenya, and Urban Food Production and Cooking Fuel Situation in Kenya. The first study examines land use planning as an instrument for furthering orderly urban development in secondary towns in Kenya and draws conclusions and recommendations intended to help the policy maker in formulating appropriate urban land policy. How far environmental concerns are integrated with social and/economic issues will be examined as well as research-policy links, where appropriate. Although the study is soloist in terms of not involving a multi-disciplinary team it may provide useful lessons for PR in the manner in which it was carried out within the financial and time constraints. The second study was carried out as team work to refine further the criteria and guidelines used in the selection of RTPC towns, and identifying the types of infrastructure investments that would yield development returns in the most efficient and effective manner. Similar issues of research process as well as its links with policy will be examined. The third was also a multi-disciplinary research carried out in six towns and directly relates to environmental issues to socio-economic policy concerns. Like the other two studies it is also action-oriented.

3.2 LAND USE PLANNING IN PROVINCIAL TOWNS IN KENYA -

A CASE STUDY OF KISUMU AND ELDORET TOWNS

3.2.1 This was an academic research project sponsored by DAAD and completed in 1993. The research uses a case study approach and uses indigenous knowledge to assess possible relevant issues, preferences or problems of land use planning in Kisumu and Eldoret towns. The value of case study approach for researching the dynamics of decision-making processes regarding land use planning and development is well supported in literature (Wynn, 1985; Patton, 1987). The facility of case studies to move with events, integrate historical material, secondary sources, participant interviews and the perception of various actors in the case uses qualitative data to study few selected issues, cases or events in depth and detail, particularly as the data is not constrained by use of standardized measures that fit various opinions and experiences in predetermined response categories.

3.2.2 The present study involved in depth interviews on the degree of acceptability of land use planning by various interest groups. Their opinions, attitudes, needs, land development preferences, aspirations and expectations were discussed regarding land use planning in both towns. A total of 165 people were interviewed aged 19 to 80 years, and of whom 76.4% were males and the rest females.

3.2.3 The research was designed to provide an insight into the work of physical planners and both the roles and expectations of the various land development actors. In consequence the qualitative data involved face to face indepth discussions with the following:

(i) Professionals at the national, district and council levels involved in land use planning and development including physical planners, architects, engineers, town clerks etc.
(ii) Local investors and entrepreneurs in different types of businesses including estate agents, manufacturers, hoteliers, contractors etc.
(iii) Local politicians including representatives in the national assembly, local councils as well as party officials.
(iv) Representative landholders/landlords.
(v) Representative tenants.
(vi) Representative community and opinion leaders.

3.2.4 The researcher had responsibility of explaining to the members of each group the purpose of the research and importance of local knowledge to the research. With the help of research assistants the principal researcher would ask the questions while the assistants write the notes. Soon after interview the team members in summary form determined the most important observations and responses which needed to be recorded (Olima, 1993:113). When all interviews were completed the study was presented in a narrative form and presented as a Doctoral Dissertation at the University of Dortmund, Germany.

3.2.5 Based on both study findings and analytical assessment of the field investigation it was concluded that the land use planning is quite necessary, essential, paramount and mandatory for any organized society in order to safeguard public interest and protect property values. However, it was pointed out that land use planning instruments ought to be flexible and realistic, and should not be restricted to simplistic zoning. It was further recognized by all actors that land use planning is a political activity that makes choices among values and affects different segments of the community in different ways. Thus, people, groups and firms are demanding a voice in this decision making consistent with the venerable democratic aspirations of the people (Olima 1993:140).

Limitations of land use planning?

3.2.6 The councilors in both towns, for instance, complained about the rate at which the central government was allocating plots to individuals in disregard of master plans and respective council planning regulations with regard to open spaces, land community and social facilities etc. This position was supported by investors who thought that land use planning in both towns is ineffective. Their concern was on too much mixed land use and developments in disregard of zoning regulations, and unsystematic land development due to a lot of political interference by politicians and senior civil servants.

3.2.7 The private land owners view and look at statutory land use planning as an interference with and a hindrance to their individual rights and freedoms to develop their properties as they deem fit. There was no indication that they were concerned about environment issues, except when squatters encroach on their land. Other local residents such as professionals and tenants were dissatisfied and viewed land use planning and development in both towns as poor not only because of time consuming procedures for approval but equally on the provision and spatial distribution of economic activities. Direct participation of the public in actual plan making in Kenya is non-existent, so that other than professionals in national district and council planning offices, other participants such as NGOs or tenants have no formal influence on land use planning and decision making process. This lack of participatory approach to planning is largely regarded as the cause of sprawling unplanned settlements with degraded environments in many cities in developing world.

3.2.8 Evidence from theory and above research findings point to the fact that urban land development pattern is influenced by various actors pursuing totally different interests as shown in Figure 1. There are for instance interests of the investor, the consumer and the public, all of which are subjected to planning development control. There was need for a multi-faceted approach to urban land use planning. A participatory research approach would certainly be useful in understanding the varying interests and by involving all the stakeholders it is possible to obtain conflict resolutions that would benefit physical planners.

3.2.9 Furthermore, there is normally interdependence between activities, actors, instruments and the institutions that deal with land development planning. Figure 2 represents the dimensional centre relationships and linkages which study found to be inherent in land development planning and which reinforce the need for multi-faceted approach to the subject. This implies that traditional state led comprehensive approach to planning requiring complete public sector involvement in formulation and implementation of consistent land use regulations and total land development controls in provincial towns in Kenya has failed. Evidence of failure in other countries in the region is implied by growth of squatter settlements. It has been based on poor information base, inappropriate organizational structures, inappropriate law enforcement, and lack of appropriate definition and allocation of powers and duties of central government, local government and other actors. Because of the inherent inefficiency in the public sector, the existence of inefficiently run institutions, inadequate administrative and legal processes, and possible high costs involved, the public sector should give up the hope of completely being able to successfully control urban land development.

3.2.10 The study therefore recommends a flexible participatory approach to land development which involves setting affordable land development regulations, encouraging local public participation in planning and localizing of urban planning laws. This calls for the adoption of enabling approach to planning, which although sounds plausible will require review, revision and updating of existing land-use planning regulations. It will also involve adopting "bottom-up" land use planning system which raises the common question in PR as to who participates and at what stage? The approach requires that appropriate legislation is enacted for urban environment, incorporating environmental considerations in urban planning. This requires appropriate information base and understanding of the dynamics of environmental deterioration in urban areas.

3.2.11 The present study is typical of many researches carried out in the region. It is a very useful policy study and there is no doubt about practical research policy links. The approach involved as many stakeholders as was practically possible and made good findings as well as plausible recommendations. However, the formulation of land policy is essentially a political issue as it affects the political power balance of the existing society. It is about the use to be made of scarce urban resources, it asks how to draw the balance between the rich and poor, between private and public interests. Therefore any significant change in government policies regarding use and distribution of urban land must be supported by strong political commitment. There was thus need for a forum where the findings and recommendations of this study should be discussed with all interested parties so as to strike a consensus. It should also have obtained tacit support and involvement of the Ministry of Lands and Ministry of Local Development. Findings of the research could remain valid; the recommendations could possibly change particularly in the light of the need to involve the public sector in facilitating the implementation. One possible outcome of the forum could be to recommend the setting up of a commission, a procedure which appears popular with many African governments principally as a delaying tactic, and secondly to find room for appointing pro-establishment group of persons to moderate recommendations.

3.3 MEASURES FOR STRENGTHENING THE IMPLEMENTATION OF RTPC PROGRAMME IN KENYA - A CASE STUDY OF BUTERE, ENGINEER AND TAVETA TOWNS

3.3.1 Kenya's Rural Trade and Production Centre (RTPC) Programme was initially set forth in Sessional Paper No. 1 of 1986 on Economic Management for Renewed Growth. The Sessional Paper states that,

> The purpose of this programme is to concentrate scarce resources for urban infrastructure in a limited but growing number of selected rural centres which have the best potential for supporting agriculture and its linked productive activities including processing, manufacturing and services (G.K., 1986:45).

The Ministry of Planning and National Development (MPND) is responsible for developing technical criteria and guidelines in making selection of RTPC towns and preparation of investment packages for the towns. The criteria were to help select as RTPCs those settlements where a package of investments is likely to yield the maximum impact and benefits.

3.3.2 The Government of Kenya's current rural-urban strategy represents a new initiative in its national urban and regional development strategies. In contrast to earlier urban development strategies, the rural-urban balance strategy calls for the coordination of rural and urban development efforts. It explicitly recognises the intermediate relationship between rural and urban areas, and linkages among different sectors of the national economy, and the Government's principal growth priorities. The RTPC programme is an example of a policy that is based on approach to "market-based" planning by freeing market from imperfections through provision of productive infrastructure.

3.3.3 Although some criteria had been hastily designed in 1987 to implement the programme, difficulties arose in the implementation process which lent credence for the need to review and define objective criteria. A research team was formed consisting of a consultant from University California, four faculty members from the University of Nairobi and two staff members from MPND. The team was assisted by several graduate assistants in data collection, coding, analysis and preparation of graphics and maps. The project was funded by Ford Foundation and was completed between 1990 and 1992.

3.3.4 The objectives of the research were to refine further the criteria and guidelines to improve the implementation of RTPC programme; define more clearly the concept of rural hinterland for future implementation of RTPC programme; to broaden the understanding of rural-urban linkages by examining further the fundamental assumptions underlying the RTPC programme; and to establish baseline data for the RTPCs to compare with similar data collected after completion of RTPC investments so as to be able to evaluate the programme. The secondary objective behind the collaborative research was to provide training and experience from MPND in research methodology on participatory rural-urban dynamics and planning so that the project becomes self-sustaining in the future.

3.3.5 The research framework sought to detect the nature and volume of economic exchange between farms and towns including the activity of traders. Rural-urban dynamics explores how rising agricultural incomes among farm households stimulates the growth of nonfarm activities in the small towns, and vice versa; how increased incomes from nonfarm activities enables small holders to raise agricultural productivity and output (Ngau and Gaile, 1992). Interviews using survey instruments were conducted with farm households, towns households, and traders in three centres in different ecological zones in Kenya (Taveta in the Coast, Engineer in the Highlands and Butere in the West). Data from all the surveys were entered into a computer, cleaned and cross-checked and analyzed using SPSS.

3.3.6 Findings and conclusions of the study led to the recommendations for the calculation of RTPC index using the following variables:-

Market Area Size Index
Centres's Infrastructure Index
Centres Economic Activity Index
Rural Infrastructure Index
Agricultural Productivity Index
Agricultural Potential Index

The unavailability of land has proven to be a serious constraint to RTPC programme. In towns where public land for projects in unavailable, it must be purchased at costs that would inflate programme budgets. Further, towns without available public land are constrained in their ability to grow and

prosper as RTPCs. There is thus need to include land availability measured in terms of sufficient land available for all foreseeable projects, some land is available or no land is available.

3.3.7 The criteria for investment needs in RTPCs can be identified through PR approach, particularly the participatory rural appraisal (PA) which has been frequently used in social, health, and agricultural research, notably for needs assessment, programme monitoring and evaluation, community sensitization/ mobilization. Figure 3 provides a framework for identifying investment needs in RTPC. Given the limitations of the Central and Local governments in providing infrastructure and services the study recommends that the private sector should be encouraged to play a greater role in implementing RTPC programme.

3.3.8 Although this research did not fully make use of PR by involving the community in the three centres in formulating the research proposal, data analysis and interpretation, at least the policy makers from MPND were involved throughout all stages of the research. The local community was involved in terms of responding to the interviews. At the end of the study a seminar was held including central government and local authority policy-makers, some opinion leaders from the project areas, as well as academics from Universities. A final report was written after the workshop incorporating some of the comments from participants. Several copies of the report were circulated through the MPND for use by the District Development Committees (DDCs).

3.3.9 The RTPC programme is a complex programme that is a lead case in the East Africa region. As such much can be learnt from the process of implementation and evaluation so as to improve its functioning in future cases. It was a demand-driven action-oriented research that was readily accepted by policy makers. What one may not be certain about is the extent of political will and commitment to adopt the research findings, particularly where political patronage is a major concern.

3.3.10 Finally this is a major research that concerns development of some 200 towns by the year 2000. The issue of sustainability was only referred to in terms of personnel to carry on the programme. Although criteria for selection include agricultural index and make reference to land availability, no direct reference is made about environmental issues. The main concern is with social and economic development in terms of market-oriented planning to create more employment and balanced regional development. This reflects the policy of the Kenya Government which deals with sectoral planning rather than integrated approach to development planning. It would have been pertinent for the MNPD to raise the issue of environment as a factor in selecting RTPCs. This tends to confirm the issues raised in section 2.2 as being constraints to Integrated Policy Research which will require immediate action to ameliorate.

3.4 URBAN FOOD PRODUCTION AND COOKING FUEL SITUATION IN URBAN KENYA - A CASE STUDY OF SIX REPRESENTATIVE TOWNS

3.4.1. The study analyses the patterns of food and fuel production and subsistence consumption by urban households in six representative towns of Isiolo, Kakamega, Kisumu, Kitui, Mombasa and Nairobi. The study was carried out by a multi-disciplinary team of six researchers from Mazingira Institute with a grant from IDRC Canada.

3.4.2 According to the research team the urban poor are the most disadvantaged of all groups with serious nutritional deficiencies, and they are the group that has not been effectively targeted by policies

and nutritional status. For instance, while pastoralists may benefit from improved animal husbandry techniques, rural landless poor may benefit from rural public works projects like water works, there is no specific programme to benefit the urban poor effectively. They do not form an effective political constituency in Kenya and as a result they are in practice neglected during development plan implementation while many famine relief efforts ignore them (Lee-Smith et al, 1987).

3.4.3 In addition to the food problem, the urban poor also find it difficult to get adequate fuel especially for cooking needs. The urban areas depend on rural areas for most of their fuelwood and charcoal. The low-income urban households are ones most dependent on wood fuels, especially for cooking purposes. This means that as the shortfalls in wood-based energy increase, the low-income urban households will be the ones most affected; many of these households will find it difficult to have access to fuel that is adequate for their cooking needs.

3.4.4 Accordingly this study takes the position that there is urgent need to study urban food and fuel problem in Kenya so as to generate policies to improve the lot of the urban poor. Therefore the principal objective of this study was to investigate and document the extent of food and fuel production and subsistence consumption in urban Kenya. In particular it sought to document the strategies undertaken by the urban population which are widespread activities among urban dwellers in East Africa, and yet they are virtually undocumented and ignored by planners and policy makers. In so doing the study intended to identify the important policy issues related to urban food and fuel production and subsistence consumption in Kenya.

3.4.5 The methodology used for the study was administration for a questionnaire to some 1612 households. The sampling procedure adopted for the household survey was Sampling with Probabilities Proportional to Size (SPPS) applied in a three stage sequence. In the first stage the total number of households in all the six towns was broken down into samples, keeping the sample size for each town proportional to the ratio of households in that urban area to all the households in the urban areas under study. In the second stage the sample size determined for each urban area was broken down into small groups according to the known income distribution patterns in these urban areas. The sample size for each income category was kept proportional to the ratio of the households in that income category to the households in the urban area. In third stage random numbers were assigned to the administrative areas (sub-locations) falling within each income category. Random procedures were then used to select sublocation areas to be sampled. The sample size determined for each income category was broken down according to the sublocation areas. The sample size for each sublocation was kept proportional to the ratio of households in that sublocation to households in the relevant income category.

3.4.6 Interviewers visited randomly selected households in each sample sublocation area. It was expected that many of the respondents would be housewives not in formal employment, since most of the interviews were conducted during the day. Since the population in the high-income areas included domestic servants an attempt was made to interview this category of urban dwellers. The final report was presented more-or-less according to the main sections of the questionnaire namely; (i) socio-economic characteristics of the sample population. (ii) crop production. (iii) livestock production. (iv) fuel consumption and production.

3.4.7 The main findings of the study were that almost two thirds (64%) of urban dwellers in the sample grew some of their own food, while over half (51%) kept livestock. The income figures for the same sample showed that 57% fell in the very low income group who are unable to feed themselves or their

income. The upper and middle income groups forming 43% of the sample population are better off as farmers since they more often have backyards, whereas a higher proportion of low income groups have no backyards. This group is more often found farming roadside plots and other vacant land. The livestock keeping was less among the very low income group than other income groups, mainly because of lack of space.

3.4.8 Urban households in Kenya generally use a mix of fuels, the better off using electricity for lighting and kerosene and/or charcoal for cooking, and the less well off using kerosene for lighting and charcoal and/or firewood for cooking. The large majority of urban households surveyed used some woodfuel to do their cooking, 82% using charcoal and 19% using firewood. Almost 25% of the households in Mombasa used firewood, and as many as 62% in Isiolo. Only in Nairobi was the proportion as low as 4%, mainly because very little was available for collection free (Lee-Smith et al, 1987:277).

3.4.9 The main policy issues arising from the findings are that:

(a) Although urban farmers come from all groups, it was the very low income households who had most need to grow subsistence food, and at the same time having the least access to land to do so. Many of the urban farmers reported harassment by council authorities on the grounds that it was an illegal activity.

(b) Existing urban planning policies take absolutely no account of urban farming. According to the by-laws of each council it is generally not legal, although it may be tolerated in most towns.

(c) Although high and middle income residents usually benefit from low density planning which enables them to practice backyard farming, most low income households are zoned into high density housing which makes urban farming next to the house difficult. Worse still those very low income groups who live in completely unplanned and unserviced areas, and those who live one family to a room in these or legal levernent dwellings, are too overcrowded to be able to grow food easily, let alone legally.

3.4.10 The recommendations arising out of the above scenario are that Kenyan local authorities need to reconsider their approach to the urban farming. The policies of "allotments" used by European cities and towns, and the policy of Malawi Government in encouraging urban agriculture, to increase urban food supplies, should be reviewed and an appropriate version adopted by East Africa towns. Under-utilized land, road, rail and river reserves provide ideal sites for short or medium term "allotment" of land to the urban poor in the interest sustainable urban development. The existing urban planning practice of high density planning for low income groups needs serious questioning considering the need for urban farming.

3.4.11 Urban agriculture would promote re-use of domestic waste water as well as domestic solid waste. Re-use of domestic waste water in particular could significantly improve urban farm productivity. Similarly, domestic solid waste which is largely organic in content can be sorted out and either fed to domestic animals or made into compost manure for improving agricultural productivity (Mugeot and Masse, 1993).

3.4.12 Urban authorities need to review their policies on livestock keeping in urban areas in the light of the data on low income families. A policy of urban "allotments" for crop growing could include

provision for livestock keeping. These urban livestock spaces could usefully be planned along with refuse disposal which is a resource the animals need.

3.4.13 The consumption of woodfuel by urban residents is an important issue which needs addressing at the policy and planning levels, both nationally and by urban administrators. The depletion of forest resources through urban demand, particularly for charcoal is a cause for concern both at the national and municipal levels. The main issue is lack of any alternative fuels which are affordable by the majority of urban residents. It is no use trying to control firewood gathering if there is nothing else people can use for cooking, particularly the low income group who are either not provided with electricity or cannot afford the more expensive fuels.

3.4.14 Kenya Government like other governments in East Africa are aware of the woodfuel crisis, but the policies tend to target on rural areas. It is time for municipalities to develop programmes and projects of their own, which link on to the knowledge and experience accumulating at national levels. For instance, reafforestation of woodlot using fast growing species should be considered. Biomass production from crop residues needs to be developed on a more planned basis as part urban farming. Industrial waste needs to be better planned for recycling as fuel in the small business sector, especially in larger towns where space for biomass production is at a premium.

3.4.15 This study is certainly instructive in incorporating environmental issue into economic and social concerns. It was carried out by a multidisciplinary team of architects, economists, environmentalists, and agriculturalists. Perhaps it did not allow for community participation in the design, collection and interpretation of data for the study, although the questionnaires were pretested before final interviews. The main weakness, however, was that the results were not disseminated in a seminar that would have included policy makers at the national and local authority levels as well as the identified farmers. This is where the research-policy link is weaker than the previous study. Thus since 1987 no policy formulation has been undertaken with respect to urban agriculture or urban woodfuel in Kenya. A lot of work still needs to be done to interest local authorities in this subject so that they can modify their by-laws that will promote urban agriculture and environmental issues.

4. CONCLUSION

4.1 The review of the above three research projects reveals that in most cases the researchers design their own projects and carry out the studies in the most convenient way in terms of the financial constraints. All the three studies were funded by external agencies who in one way or another had an interest in each study. The terms of reference were agreed between the researchers and the funding agencies. The studies may therefore not be necessarily demand-driven from policy makers and users. The second study, however seemed to have been demand-driven by policy makers at the MPND though not necessarily by the DDCs and local authorities.

4.2 The researchers though aware of the policy implications of their studies did not work closely with the policy-makers other than interviewing them during the field work. Perhaps it would have been preferable to involve the identified key policy makers in the research. This however would imply additional costs as was the experience with second project where the officials from MPND had to be paid some honoraria for inducement since research was more demanding than their daily routines. While in most cases research projects, particularly those funded through universities do not include honoraria under cost items this may change if more external people have to be incorporated into the

research projects. The incorporation of beneficiaries whose research findings should assist such as the urban poor in the last study is even much more difficult. It will be costly to induce them to participate in the research unless they are employed as enumerators for data collection which requires only a limited number of persons. Where, however, the community is organized through some associations or welfare groups it could be possible to identify key opinion leaders to be involved in some appropriate stages of research work, depending on the nature of the project.

4.3 The inclusion of environmental concerns in research projects through a noble idea may be constrained by many factors. For instance in the above three projects there would be need for environmental impact assessments to be carried out before drawing conclusions and making recommendations. However, this would require as in the case of the third study experiments on the viability of using waste water and solid waste in urban agriculture, depending on the chemical contents of the waste. It would also be necessary to find out whether the domestic solid waste is biogradable into compost manure and what is the possible effect of decomposing matter on health. These may be areas in which the social scientists will need to call in the services of natural scientists. This will involve both time and cost overruns which the funding agencies may not be prepared to fund under one project. The more detailed issues of scientific investigations may not even be of interest to a particular funding agency. Therefore to promote the idea of integrated research the funding agencies may also need to reorientate their interests from purely socio-economic or technological considerations to a multi-disciplinary approach for sustainable development. Such a requirement will increase the gestation periods of research proposals as well as the execution of the projects since many aspects will need to be investigated. It will also require increased co-ordination within the funding agencies that are currently compartmentalized into divisions such as social sciences, environmental and/or health sciences, technological divisions etc.

4.4 A major barrier to be bridged before integrated research policy is promoted successfully is the professional biases between various disciplines which prevent researchers from accepting and regarding each other as equal partners. So far the only professional that seems accepted by most professionals is the sociologist. Among most professionals there still remains a lot of suspicion and lack of respect in the same way the researchers see policy makers and beneficiaries. Methods of approach in carrying out investigations and reporting may also be different between different disciplines and may therefore need reconciliation in the manner the research project is to be finally presented.

4.5 Thus the issues of professional biases between researchers and within funding agencies/institutions, involvement of policy makers and the involvement of community in all stages of research project are perhaps some of the major constraints to integrated policy research.

5. RECOMMENDATIONS

5.1 There need to identify research problems in close consultation with users of research results. If research problems are not properly identified there is the likelihood of working on a problem which is not relevant to the user, and this creates bottlenecks for research - policy links.

5.2 There is need to incorporate monitoring and evaluation as an important research component. Research is conducted for purposes of finding solution to a specific problem or to have a better knowledge about a given situation. Without process of monitoring and evaluation it will be difficult to determine how successful the solutions had been.

5.3 It is suggested that multi-disciplinary research projects should be followed by policy formulation workshops, and that government planners should be encouraged to participate in and use such workshops for furthering their own ideas on how to cope with respective policy options. Encouragement should also be given to government departments to work with social scientists on live problems so as to strengthen the link between the researchers and the policy planners and implementors.

5.4 There is need for a more integrated approach to research and training. There is thus need for research projects to provide or be integrated with planned training components that build up the necessary skills of researchers, technicians and other research support staff in training institutions.

5.5 There is need for the national governments to formulate environmental policy for both urban and rural areas. The need to require environment impact assessments for proposed development implies that environmental indicators and standards have been developed. This is far from reality in most African countries. Accordingly the national governments and the international community should support and encourage research in environmental management so as to provide baseline data for formulation of policies.

5.6 There is need to strengthen the institutional capacity of various national governments and related agencies to be able to cope with needs of INTESEP research. Just as sustainable development requires integrating environmental costs into the economic systems, it also requires integrating citizens into the political process. The pursuit of sustainable development requires a political system that secures effective citizen participation in decision making.

Figure 1: Possible influencing factors on urban land development patterns (ULDP)

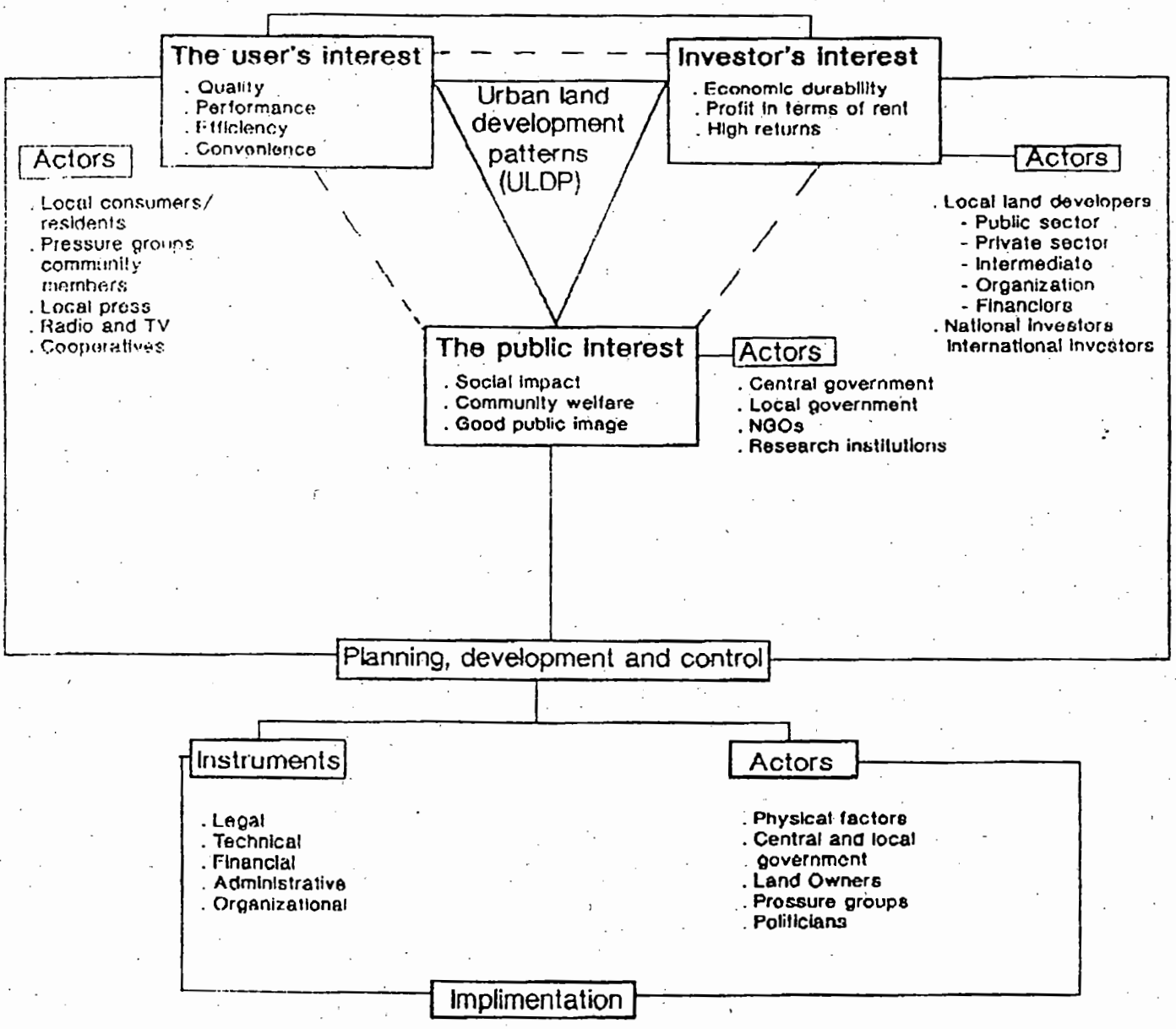


Figure 2: Dimensional interelationships and linkages in land development planning

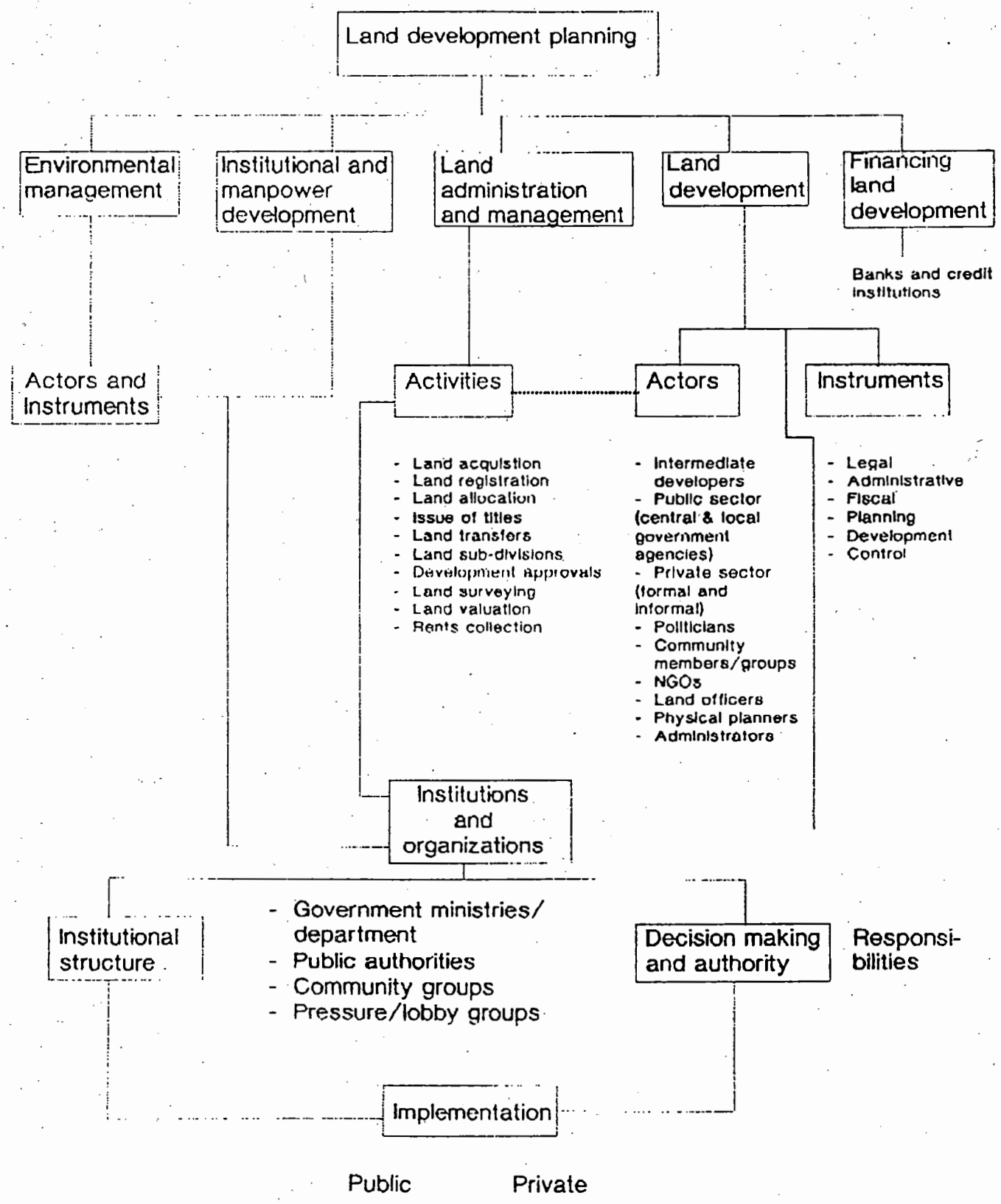
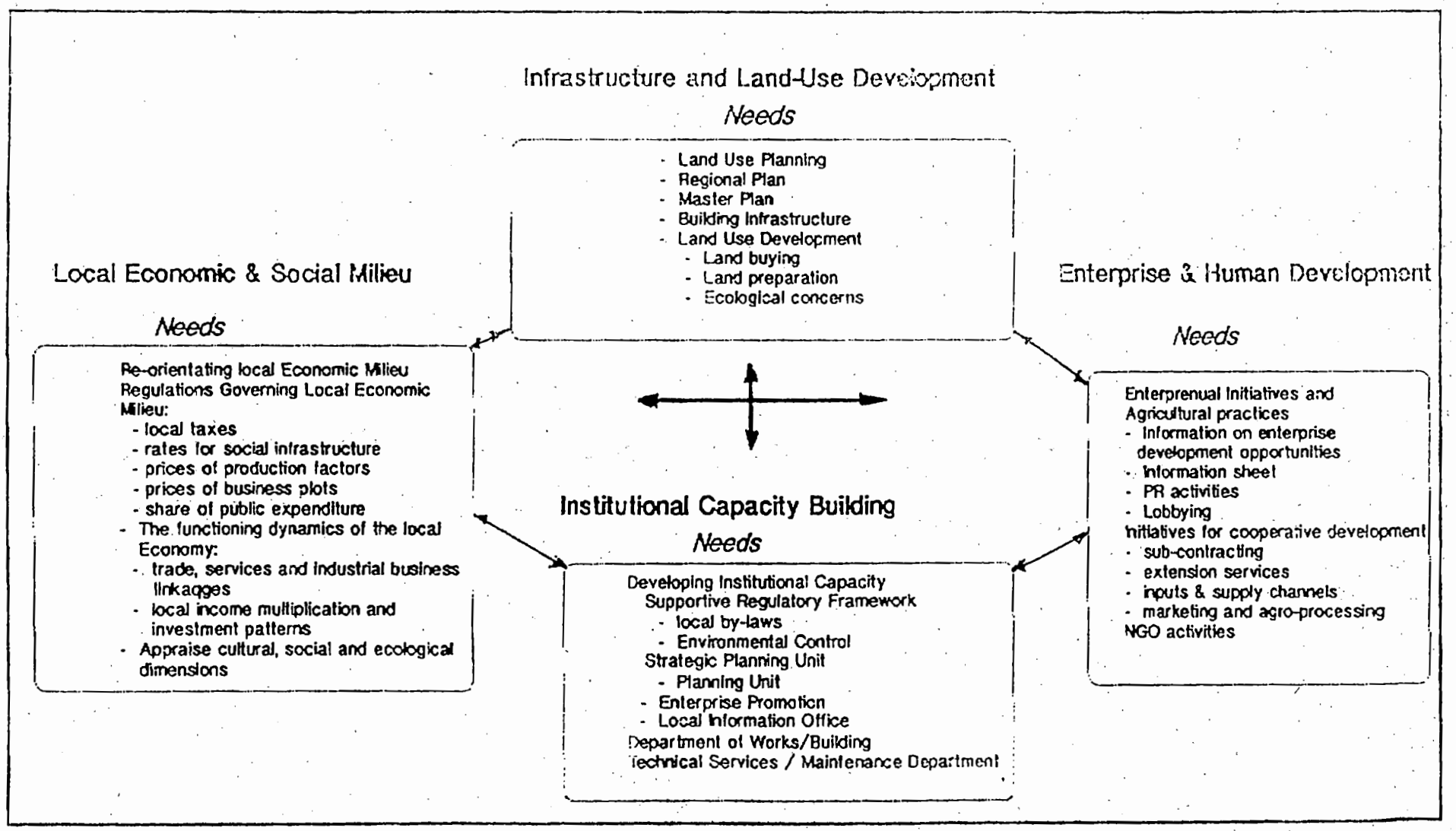


Figure 3: A Framework For Identifying Investment Needs in An RTPC

Components for Rapid Rural-Urban Appraisal



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ANNEX III

THE INTERDISCIPLINARITY IN INTESEP

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The Interdisciplinarity in INTESEP

Present times are characterized by very rapid change and increasing complexity and interdependence. The conventional response by both scholars and policymakers has been to split complexity into manageable pieces for reflection and action. Scholars have therefore tended to concentrate on disciplines while policymakers focused on sectors.

In the last three decades, the recognition of the finite limits of our natural environment has created an urgency in tracing connections between our personal and social choices and the environment. The need to acknowledge this interconnectedness has brought an increasing emphasis on an understanding of complexity as an integrated whole and not merely as a sum of parts studied separately. This focus on interconnectedness has supported efforts in integrating varying disciplinary perspectives in both problem analysis and policy formulation.

This paper looks at interdisciplinarity as one of the ways that could facilitate this integration. It also contributes to the discussion on the policy research prerequisites of sustainable development as outlined in Agenda 21, the global action plan drawn up in the 1992 Environment and Development Conference. Chapter 8 of Agenda 21 is entitled "Integrating Environment and Development in Decision-making". It states that the separation of economic, social and environmental factors in decision-making affects the sustainability of development. In keeping with this, IDRC has chosen "INTESEP" (Integrating Environmental, Social and Economic Policies) as a core theme for its research programme.

The main implication of the INTESEP theme for the research process is that it requires that the traditional realms of economic and social policy research open up to each other and to the newer domain of environmental policy and examine how the three can best interact in the interests of sustainable development. This implies consideration of how the disciplines usually associated with such research - disciplines such as sociology, economics, political science, zoology, botany, etc.- might interact to produce recommendations for public policies which recognize and address the linkages between sectors that have been viewed as separate e.g. economic planning and development, education, housing, environmental management or the management of natural resources. There are indeed linkages between these seemingly disparate domains and INTESEP can make these connections explicit and amenable to policy discourse.

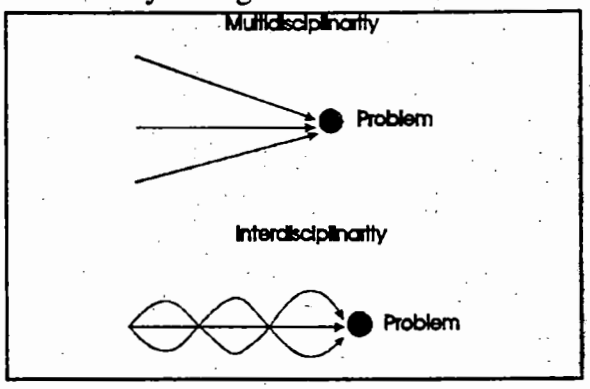
The methodologies for tracing the linkages and formulating an integrated approach in analysis, planning and policy are still at the stage of exploration and development. Much remains to be learnt about the options in this process. Interdisciplinarity is one of these options. The following sections discuss what is meant by interdisciplinarity and what its role in INTESEP research could be.

Definitions

The term that describes the use of more than one disciplinary perspective in the consideration of an issue is called crossdisciplinarity. It is an umbrella term for two kinds of processes which involve the

application of several different academic disciplines to explain or solve a problem (i.e. multi- and inter-disciplinarity).

The distinction between the two terms refers mainly to the degree of consultation and co-operation between the disciplines during the research process. In "multidisciplinary" research, different disciplines have parallel input without necessarily consulting with each other. "Interdisciplinary", on the other hand, implies some degree of integration between the different disciplines in relation to the problem at hand. It may involve consultation at the research design stage, as well as during the research process itself. The distinction is illustrated diagrammatically in Fig.1 below.



While multidisciplinarity can mean simply the juxtaposing of disciplines in the exploratory process, interdisciplinarity is a pooling of knowledge. The focus in the latter would be on intersections between disciplines [1]. Multidisciplinarity is characterised by a low degree of integration; it is more a mosaic of different disciplinary inputs. Interdisciplinarity means a higher degree of integration in the process and results of research.

A succinct listing of the main components and stages of interdisciplinary research and analysis is given by Dirk van Dusseldorp[2]

> **(1) studying the same object (2) at the same time (3) by members of different disciplines (4) in close cooperation and (5) with a continuous exchange of information, (6) resulting in an integrated analysis of the object under study.**

The interdisciplinary approach to problem solving is also characterised by the attempt " to reveal and deal with complexities in some rather direct participatory manner"[3]. In other words, the problem is approached with a research design and a research team that reflects as far as possible the key facets of the issues's complexity and the concerns of those who are affected by it.

In INTESEP research, the preferred mode is interdisciplinarity and the goal is integrated policies i.e. policies which are cognizant and reflective of the implications for each other.

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[1] George Gusdorf, "Past, present and future in interdisciplinary research", International Social Science Journal, Vol.XXIX, No.4, 1977.

[2] Dirk van Dussseldorp, " Integrated Rural Development and Inter-Disciplinary Research: A Link Often Missing" in Baker J.I. ed., Integrated Rural Development Review, University of Guelph, 1992.

[3] J. Dryzek, " Ecology and Discursive Democracy " in Capitalism, Nature, Socialism, 3(2), 1992, quoted in Francis G. " Ecosystems" , paper presented to the Social Science Federation of Canada, Ottawa, Feb. 1994.

This requires both in the research and policy realms an iterative process of exchange and feedback between the different actors.

Assumptions

Our discussion on interdisciplinarity with regard to INTESEP is based on certain premises and these are outlined here.

i. That IDRC supports applied research (i.e. research for the solution of problems and research that can contribute to policy formulation).

ii. That IDRC recognizes the role of disciplinary as well as crossdisciplinary research in responding to development problems.

iii. That disciplinary expertise is often called upon to contribute to the planning of different public sectors. Therefore greater interdisciplinarity at the research and planning stage could enhance inter-sectoral communication and consultation at the policy level.

iv. That INTESEP research requires consideration of both biophysical and socio-economic dimensions of a development issue.

Development, disciplines, interdisciplinarity and integrated policy

Disciplines are branches of knowledge, many of which originated in nineteenth century Europe for the purposes of instruction [4]. Disciplines are a means of understanding the world and passing on the knowledge thus acquired. This understanding however is developed within the conceptual boundaries and the analytical framework of the particular disciplines. The disaggregation of knowledge embodied in disciplines is also characteristic of formal learning institutions and therefore would also influence the kind of policy advice that emerges from these.

Human motivation, development activity, communities, reality - these are integrated processes (in the sense that everything relates to everything else). Our grasp, our understanding of these may be from partial standpoints, but the world is a complex web that we continue to attempt to break into microscopic parts that we can study and manipulate. When we try to re-shape parts of the web with our understanding and manipulation, it might well have the effect we expected but almost invariably it will also have other effects that we may or may not grasp. Cross-disciplinarity and in particular interdisciplinarity is an attempt at grappling with more of the complexity of the real world than is possible through the monodisciplinary approach. The assumption is that there are development issues which would benefit from the wider input. At the same time, the broader spectrum of input would add some complexity to the research process as well.

There are costs to interdisciplinary research that must be considered at the outset. In comparison to the monodisciplinary approach, the interdisciplinary approach involves more people, money and time and

[4] J. Vickers et al, "Interdisciplinarity" , Working Documents, Carleton University, 1992.

demands skills in team management. There has to be clear communication between the researchers, co-ordination and co-operation and joint decision-making; in other words, a strong commitment to teamwork.

The overall goal that we in this meeting are concerned with is that of "development". It is not a coincidence that we should be having a discussion on interdisciplinarity at a time when the development paradigms that have guided policies and activities for the last fifty years are being seen as largely redundant. A central premise of these paradigms was economic growth along a linear progression with the western industrial state being the hazy utopian image on the distant horizons of this line. That cannot be. And so, as greater credence is lent to the possibility of nurturing a more "organic" view of development that recognizes diversity in modes of development depending on local foundations, there begins to be a corresponding acknowledgement of more systemic or holistic approaches to analysis.

A characteristic of these emerging approaches is greater emphasis than before on public participation in research, planning and policy development. The aim is to establish and maintain dialogue between researchers, policymakers and the communities and other interested parties (private sector companies, non-governmental organizations etc.) who might be affected by particular decisions. This relationship has been called in the research parlance "vertical linkages". The participatory process can identify key issues for research. "Horizontal linkages" can connect members from the different disciplines involved in research on the integration of environmental, social and economic decision-making. Figure 2 attempts a visual representation of these linkages.

The donor can play the role of the catalyst, stimulating the articulation of the problem in community interest, and promoting interaction between the constituencies and the researchers as well as across disciplines.

INTESEP and Interdisciplinarity : The Research Process

INTESEP is an interdisciplinary research area for integrating social, economic and environmental policies. It aims at bringing together insights from resource management / environmental issues (which are usually considered the domain of natural sciences) and social and economic policy research (which would tend to be done by social scientists). The rationale for interdisciplinarity in INTESEP is well stated by Paul Stern[5]

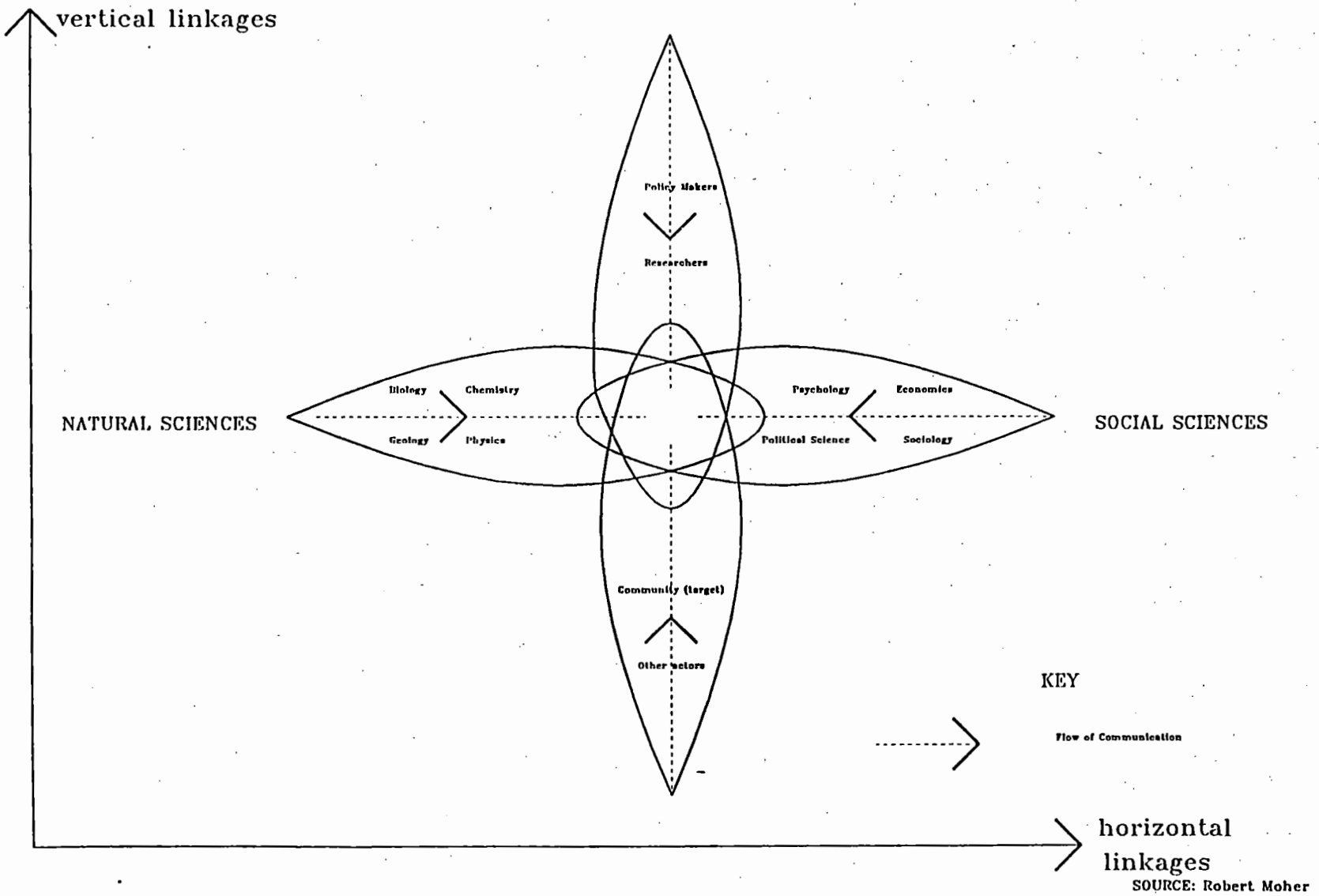
> Research must be interdisciplinary because human-environment relations are natural and technological as well as behavioral and because the relevant human actions are those not only of individuals, but also of communities, organizations, and political-economic institutions.

While reviewing in the following discussion the various stages of the research process, it would be wise at the same time to keep in mind that interdisciplinarity is not an area of clear-cut methodologies. There is no general prescription " which amounts to a methodology in the narrow and well-understood sense of the term... In other words, the problems of interdisciplinarity will always require increasing

[5] Paul Stern, " Psychological Dimensions of Global Environmental Change",

Figure 2

VERTICAL AND HORIZONTAL LINKAGES IN INTERDISCIPLINARITY POLICY RESEARCH



SOURCE: Robert Moher

ingenuity and creativity" [6]. Choice of the methods will derive from the analysis of the problem and the discussion in the planning and preparation stage of each project.

Another important point to note is that in an interdisciplinary project, the research skills of exploration and analysis are just as much at the core of the research process as in monodisciplinary research. What is different is the continual interaction, exchange and influence between the different members of the team, who come from different disciplinary backgrounds.

I. Preparation: Planning the Research

Preparation for interdisciplinarity does not necessarily begin with the project. Its base is prepared through interactions that academics, researchers, policymakers and various other interests might have beyond their own specialized areas. This foundation is dependent upon ongoing networking and exchange between people in different sectors and disciplines and their openness to each other and the changes and challenges this might brings.

Effective policy research requires familiarity with the decision-making process and institutions within government. Links between research institutions and policy makers have to be developed and maintained throughout the research process [7].

i) Problem identification

During the process of problem identification, a first question that would be asked is "whose problem is it; who identifies the problem?" INTESEP has set the research parameters in terms of the interdisciplinary and policy dimensions, but within this context, the community, policy makers and the researchers would contribute to the definition and the focus of the problem. In the case of INTESEP, the focus is policy research and therefore it is essential that the policymakers' definition of the problem is incorporated into the research agenda as much as possible.

The first step in problem definition is to acknowledge that the problem calls for an interdisciplinary approach rather than a monodisciplinary or a multidisciplinary one. Working across disciplines is a "given" in the INTESEP context since the theme area spans across social, economic and environmental issues. However judgement has to be made on the degree of integration that would be required and the depth of the disciplinary expertise that might be called for by the problem that is to be researched. This question would begin to be answered as the problem definition process uncovers the various facets that interact in the subject area of the research.

Different ways of involving the users of research output can be encouraged (i.e. community meetings and roundtables). Community facilitators can help with the articulation of the problem. Roundtables

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[6] Jonathan Broido, " Interdisciplinarity : Reflections on Methodology" in Kockelmans Joseph J. Interdisciplinarity and Higher Education, The Pennsylvania State University University Park, 1979.

[7] David Glover "Policy Researchers and Policy Makers : Never the Twain Shall Meet?" paper presented at IDRC.

can sharpen focus on the problems that have been identified. The researchers need to be sensitive to community needs even when these are not explicitly outlined (i.e. consideration of the impact of the research on the community). The participatory process is not unique to interdisciplinarity and is in fact being increasingly used in a variety of research settings.

In policy research, the issue is sometimes largely that of the clarification and elaboration of the various dimensions of a policy issue. This has been termed " the enlightenment function" of research [8]. At other times, the focus is on the solution.

The stage of problem identification is crucial to the outline of the research design, the creation of a vision of the solution and the recognition of skills required to arrive at that solution. Before moving to the stage of data collection, all involved must have a shared understanding of the problem at hand [9]. Amongst other things, this means making explicit the assumptions that everyone brings to the project about the problem, the research goal and the key terms. For example, researchers and users would need to define their understanding of salient concepts such as " community needs" or "costs". The same words can be used to convey different meanings to different people.

To get the research question right, the focus needs to be on the problem and the issues it generates and not on disciplinary perspectives per se. What disciplines are to be used to thoroughly research the problem could be decided after a clear definition of the problem and the various dimensions that need to be investigated.

ii) Team selection

The selection of disciplines for the research team would respond to the problem or research question in hand. It would also be influenced by an analysis of the interests involved in the policy research process and the expertise required to investigate the issues brought forth by them. A scan of these interests through documentary research and brief interviews with representatives would outline some of the key issues that influence the research question and need to be considered within the research process.

As far as possible, team composition should be flexible so that additional members can join and leave as the project progresses. The core team however should remain the same as far as possible through all the stages. A limit to the size of the core team should be considered in order to optimize the potential for effective teamwork.

Once the team is in place, it can jointly formulate the research design in terms of who does what, when, where, and with what. It is imperative that by this stage, there is a shared understanding in the group about what the research problem is.

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[8] C.H. Weiss, "Research for Policy's Sake : The Enlightenment Function of Social Research" in Policy Analysis (3), pp 531-545.

[9] Julie Klein, " Applying Interdisciplinary Models to Design, Planning, and Policy-Making" in Knowledge in Society: The International Journal of Knowledge Transfer, Winter 1990-1, Vol.3., No.4, pp 29-55.

The two examples below illustrate how the selection of team members follows from the initial diagnosis on the dimensions and research components of the problem:

* a recent project supported by IDRC on sustainable economic development research in fact drew on not only economics, but education, health, demography and natural resource management expertise.

* another on the establishment of a cassava flour sector included agronomy, engineering, food technology, business administration, agricultural economics, and farmers' associations.

II. Data Collection and Analysis

While interdisciplinarity promotes a wider span of inquiry, it should not mean loss of focus. To be comprehensible and goal-oriented, the research needs to be controlled along the objectives derived from the problem definition, otherwise data gathering can be a bottomless pit.

The guiding principle for all stages of the interdisciplinary process is synthesis and integration of perspectives from the different disciplines and of the different stakeholders (such as the target community, NGO active in the area, policymakers etc.) at the various stages of the process. The analytical and conceptual structures that are used by the different disciplines have to be amenable to "translation" so that members of the research team can understand the purpose and rationale for their use in the research context. The ability to communicate and collaborate is very much at the heart of interdisciplinary research.

In a recent review of some IDRC projects which have attempted interdisciplinarity, it was noted that where there was regular communication and exchange amongst the disciplinary experts and between the researchers and research users, there developed over time an ease with each other's language and methods. For example, in Uganda, a project on the use of local fertilizers in agriculture has a team which consists of a geologist, a social scientist and soil scientists. From the outset of the project, the group has had monthly meetings to exchange notes and plan the next steps. Joint field trips have meant that informal exchanges have contributed to teambuilding. Secondly, the fact that the work of each one is premised on that of the other ensures genuine rather than cursory exchange and interaction. The soil scientists rely on the geologist to collect the fertilizer samples which they then test on crops; the sociologist looks to the soil scientists to see what fertilizer mixes need to be introduced to the communities; and the soil scientists in turn wait to hear from the sociologists about local farming practices. Without this interaction, there could be no meaningful research.

In keeping with the communicative character of interdisciplinarity, there would also in most cases be regular consultation and exchange of data and tentative conclusions between the team members and the end-users of research. Another example from Uganda serves to illustrate the point. The Fish Commodity Systems project has a policy component regarding the regulation of common water resources and the marketing of fish. The co-ordinator of the project noted in a recent conversation that what distinguishes this project from "traditional" research is that whereas in the monodisciplinary approach there is weak linkage between researchers and the users of the research, in this project "virtually everything including trip reports" is circulated to all the people who comprise the users (the

policy-makers and the community i.e. those who are affected by the policy decision) as well as the researchers. Plans are revised as comments and reactions are sent in.

An observation from 'Managing Interdisciplinary Research Teams'[10] aptly describes the data collection and analysis stage:

> This phase calls for careful dovetailing of the practical requirements of multiple and overlapping sub-studies being conducted simultaneously ...Frequent but brief discussions are essential, as are patience and tolerance by all....there will be constant need to check up on the categories used by other researchers and the detail of their findings for comparative purposes and participants need to be stimulated to do this rather than simply analyzing their own work as if it existed in a vacuum.

The co-ordinating of the simultaneous studies and the exchange between the researchers of the process of data collection is what distinguishes the interdisciplinary process from monodisciplinary or multidisciplinary research processes. In the latter, the distinct studies would stay separate rather than overlapping.

In interdisciplinary research, the basic tools for research and analysis remain those of the disciplines constituting the team, although the understanding gained through these various perspectives is certainly influenced by the fact that there is more than one discipline involved in the process. In fact, the dialectical interplay between the disciplines can enrich the individual disciplines.

The analysis is conducted with the recognition of the interdependence between the different aspects of the problem. The regular communication among researchers and between researchers and users is meant to ensure that important interactions between the different aspects of the research problem are not overlooked.

Personalities of the researchers play a role in the degree of interaction that takes place. Where the protagonists can be open and sharing, there is more progress. The physical proximity of the research institutions in the Ugandan case supported the ongoing dialogue. In India, the distances between institutions even within a city and the constraints in communication infrastructure sometimes lead to a wariness of multi or interdisciplinary processes. The management of a team which is scattered geographically can be taxing enough to take away from the research work of the team leader. An option to consider is the hiring of a co-ordinator/administrator. On the other hand, some researchers interviewed in Uganda and India were of the opinion that central control of the budget by the lead researcher was a powerful incentive to efficient teamwork!

III. Synthesis

The value of interdisciplinarity is gauged in the process of synthesis. Whereas multidisciplinarity brings together findings in a cumulative way (issue by issue, chapter by chapter), the interdisciplinary research process aims at integrating the findings of the various research components.

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[10] C. Jackson, Managing Interdisciplinary Research Teams: The ICRA Experience, ICRA, the Netherlands, 1993.

What is meant by integration in this context? One observation worth noting is that of Hugh Petrie who writes that it involves the learning " of at least part of the cognitive maps of other disciplines to be used in research" [11] The interdisciplinary research process could be seen as on-the-job learning about other disciplines. Another observation is that of Jill Vickers [12]

> By interdisciplinary integration I mean a genuine cross-fertilization between (among) disciplinary knowledge in which the new whole is greater than the sum of its parts, in which the more powerful insights of the disciplines can be employed and in which disciplinary knowledge is used "respectfully and respectably".

The first step in the synthesis and reporting stage would be the sharing of findings. The core team will have the responsibility of integrating the data or if the team wishes, the team leader(s) can be given that task. Each team member however should have the opportunity to make suggestions on how the integration should be done, although if the diagnosis and problem definition had happened in sufficient detail, the report would mostly be a response to that. The building blocks of the final synthesis, the different components and their findings have to be outlined.[13]

In commenting on interdisciplinary agricultural research experience, Jackson outlines the tension between group consensus and individual interpretation in this phase. Since individual sections are circulated and commented on by all members of the research group, there might be comments that the individual researcher might not want to recognize or concede to [14]. In this case, the disagreement has to be addressed and resolved and that might not always be in a direction that he or she personally agree with. Groupwork does impose some restriction on individual freedom that might not be acceptable to some.

A basic prerequisite for successful synthesis is the same as that for the interdisciplinary process per se i.e. openness and respect for each other's discipline and the continuous recognition of a common goal. There is always the possibility that the bias of one particular discipline will predominate, but if the problem definition has given equal emphasis to the variety of issues, then the synthesis needs to reflect that too. The quality of the synthesis will depend, among other things, on the quality of inputs given by the disciplines and the process of interaction during the research process.

IV. Presentation of findings

The research report is an opportunity to contribute to the shaping of the policymakers' understanding of the research problem beyond their initial perceptions. The synthesis should be presented in a format that is amenable to use within the policy mechanisms that exist. Another objective at the synthesis stage

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[11] H. Petrie, " Do you see what I see ? The epistemology of interdisciplinary inquiry", Educational Researcher, 1979.

[12] J. Vickers, op cit.

[13] Dusseldorp op. cit..

[14] C. Jackson, op cit.

should be to state the findings in a way which can enhance public debate on the policy issue(s) in question. What needs to be remembered in the formulation of the options and recommendations is that research findings form only a part of the influences on policy and that as far as possible, other forces such as the political pressures of the time, should be considered as the context for the recommendations.

Policy research findings can be used to develop policy options with the pros and cons of each option outlined. This involves the anticipation of future problems based on the ability to forecast the possible consequences of a given action. This ability, in turn, will depend on the knowledge generated on the environmental, social and economic processes in the study area. And this leads back to the fundamental role that disciplinary knowledge and expertise have in good interdisciplinary work. It is through the disciplinary skills that many of these processes are discerned, but it is through interdisciplinarity that their interrelationships are traced. As well, innovative definitional and conceptual work can be stimulated through the interaction of the disciplines.

Workshops where the recommendations from the research are presented and discussed with the project stakeholders could be scheduled at a draft report stage so that if there are clarifications or points of information that would enhance the recommendations, they can be included in the final report.

V. Conclusion

Agenda 21 is providing much of the momentum behind INTESEP's encouragement of interdisciplinarity. Conventional specialised and discipline-focused research is not enough for the integration of environment with development. The participatory process that is proposed as a part of the integrative steps outlined in this paper, also serves to articulate different views on the integration of environment with development at the national and local levels. The specific purpose of INTESEP is to strengthen capacity to integrate environmental considerations into sectoral planning and development efforts. Interdisciplinarity can contribute to the achievement of this integration.

The discussion above presents some suggestions on how interdisciplinarity might be achieved. It remains to be re-emphasized that the integrative process is communication - intensive and that different degrees of integration will correspond to different situations and resources and skills available.

Working beyond the borders of one's own discipline raises questions to which there are no clear answers at present but to which responses will develop alongside the practice. Some of these are: What standards of intellectual or theoretical rigour can be applied to such research? Is there need for a theoretical base to interdisciplinarity? Or, is interdisciplinarity to be seen as a new "empirical discipline"? How do we measure the effect of interdisciplinarity? How do we know whether the extra costs have been worth the results or is it that in some subjects this is the only way to go, regardless of the extra expense and effort?

For interdisciplinarity to be encouraged, research institutions have to acknowledge that it needs to be supported through sustained capacity building, training and a reward system distinct from the one that exists for disciplinary excellence. This creates the challenge of channelling some of the resources from the more conventional disciplinary groupings and departments. It also means sensitizing policymakers

and resource allocators to the need for the interdisciplinary approach. The INTESEP theme is a way of beginning this process of sensitization and exploring the possibilities and conditions for more integrated policies in your particular region.

ANNEX IV

SUMMARY OF FOCUS GROUP DISCUSSIONS

Summary of Focus Group One's Disscussion On Factors related to Horizontal Integration

Cases Requiring Different Degrees of Integration.

Socio-economic Activities and Their Implications for Land Use

Case Illustrating Reasonable parity between all disciplines.

Objectives:

1. To investigate the implications of agricultural practices on land use.
2. Intensification vs extensification.
3. Investigate traditional land use practices and their implications on land conservation.
4. To evaluate the implications of government policies on land use.
5. To assess indigenous knowledge on land conservation.
6. To investigate the impact of tenure on land use.
7. To investigate the implications of non-farm in-come on land use.

Characteristics of a Team Leader

1. Sensitivity, ability to communicate and coordinate.
2. Broad knowledge base.
3. Knowledgeable, intellectual and administrative capabilities.
4. An agronomist will be a leader of this project since he has knowledge on agriculture, land use and some sociology.

His role will be to provide intellectual and administrative leadership.

Other Members of the Team

- Economist
- Sociologist
- Anthropologist
- Soil Scientist/Geologist
- Ecologist
- Legal Expert

MECHANISMS AND PROCESSES:

1. Series of meeting/workshops where roles of all participants will be defined and agreements made so as to reach common understanding of the problem.
2. Constant communication between team leader and team members.
3. A management committee to oversee the activities of the team.
4. To be equipped with facilities for task implementation.

PROCEDURES

1. Consultation.
2. Reports from meetings.
3. Sharing of information.

TECHNIQUES AND INSTRUMENTS FOR DATA COLLECTION

1. Instrument selected on basis of the subject/issues.

2. One integrated questionnaire compiled on the basis of input by each team member during the consultative meeting.

REPORTING

1. Integrated reporting.

2. Writing takes place around issues rather than around disciplines. Each member takes into consideration issues raised by others.

3. Data is circulated around team members for complete analysis.

4. Draft report circulated for comments.

5. Leader edits for coherence and consistency.

IMPLICATIONS FOR SCIENTIFIC RIGOUR

1. Disciplinary parity does not imply rigour and rigour does not imply modelling.

2. Rigour will not be sacrificed because - it has already been taken care of during the formulation of the research questions.

3. Sufficient consultation and consensus among team members.

4. Each member delves deeply into his own area of expertise.

CAPACITY

There is a need to train people in various areas of specialization e.g. there is scarcity of some 'critical elements' such as water resource economists.

There is a need for skills in interdisciplinary work. It will thus be necessary for the team to hold a workshop on integrated research.

CASE II

IMPROVED STOVES

Less parity between the disciplines involved.

Objectives

- To meet energy needs of cooking and reduce consumption of charcoal.
- To develop local artisantry skills.
- To reduce deforestation and pollution.

TEAM

- Engineer
- Social Worker
- Economist
- Sociologists
- Artisans
- Development Anthropologists

The social worker is a team leader. She acts as a link between the team and the community so as to ensure utilization.

METHODOLOGY

1. Integrated questionnaire
2. Observation and field visits
3. Meetings

REPORT

Along disciplines and influenced by other disciplinary considerations.

SCIENTIFIC RIGOUR

More rigorous since writing is along disciplinary lines.

CASE III

Legal implications of Dumping Work.

COMMENTS:

This exercise helped a great deal in highlighting the challenges involved in the process of implementing integrated research.

The group had to go through each phase of conducting research, making decisions on who should be involved and who should play a leading role. Such a process brought to the surface, members' attitudes and stereotypes about the different professions.

For example, when members had to choose the group leader for Case II, the group had a hard time reaching consensus. Some members felt that the engineer would have to be the project leader since he would be playing a crucial role in the technological design (- designing the stove). On the other hand, the social worker was seen as a team leader since she was providing a link between the team and the community, thereby ensuring the utilization of the stove. The group eventually settled for a social worker.

However, it is striking that as team members get together to work on the project, they each bring along different skills, which are undoubtedly crucial to the success of the project. In this case, there is a challenge of working across disciplines when each person feels strongly about their expertise. Such feelings are worsened by traditional stereotypes (about disciplines) that dictate that some disciplines are better than others: e.g. natural sciences vs social sciences.

The group also highlighted the importance of capacity building in the region in order to facilitate the process of implementing the INTESEP research. Without skilled individuals in various disciplines it would be impossible to implement integrated research. Another issue emphasized was the need for regular meetings and workshops for team members in order to ensure good co-ordination and teamwork.

Among the important points noted by the group, was the fact that it is possible for a group to engage in interdisciplinary research while maintaining scientific rigour, and that disciplinary parity does not imply rigour and rigour does not imply modelling.

REPORT OF WORKING GROUP II

Discussion within Working Group II centred on the following theme: **Vertical Integration – relationship between researchers and policy-makers, and between researchers and beneficiaries.**

The points to be developed were:

–Describe two examples in which integrated research related to INTESEP was successfully used in policy. Identify two examples in which integrated research was not able to influence policy.

–What are the factors which contributed to the success or failure of the research?

–Who were the beneficiaries and stakeholders? How were they involved and to what degree (i.e. collecting and analyzing data, writing reports)?

–What were the implications of their participation in terms of ownership of the research agenda, expectations and compromise between knowledge and action?

A) Choice of Examples

Given the fact that members of the discussion group did not have any examples of INTESEP-type projects on which focus group II could base its work, it was decided to select projects displaying several characteristics of INTESEP projects, in particular an environmental component, and/or using multidisciplinary or interdisciplinary methodologies.

Five projects were chosen by the group:

1) An impact assessment of the construction of a road between Bobo-Dioulasso and the border of Mali on the physical environment (flora and fauna), sociocultural factors and the economy of the region. It should be pointed out that the building of the road, which had an overall negative environmental and socioeconomic impact, took place without prior consultation or research.

2) A community action plan for districts in the Congo. This project falls within the process of decentralization of authority to districts. The action plan has two thrusts: measures that communities can take themselves, and measures that districts can take on their behalf. The process which has been put in place is essentially participative, including beneficiaries, policy-makers and researchers. Note that the research phase of the project has not yet begun.

3) A study of the relation between immigration and AIDS in the Ivory Coast. Immigrants are considered to form a risk group. The project, designed to put in place a prevention program focusing on sexual behaviour, is of an interdisciplinary nature and has epidemiological, demographic and socio-anthropological components. The lack of participation of policy-makers has been shown to be one of the projects weaknesses.

4) A study of integrated means of fighting insect pests in countries of the Sahel region. The project, developed under CILSS, was approved by the governments of all member countries. It consisted of proposing alternatives to the use of chemicals to destroy the insects, as insecticides had led to deterioration of the physical and biological environment. It should be pointed out that policy-makers

did not follow up on their commitments as financial interests forced them to continue using insecticides. This project serves to illustrate that the involvement of policy-makers in research does not necessarily guarantee a positive impact on policies.

5) A study of the new directions taken by the medical profession in the Ivory Coast. The aim of the study is for policy-makers to get a better understanding of the expectations of the country's young doctors. New doctors form a very heterogenous group which has not been able to unite to articulate or defend its common interests, nor those of the end beneficiaries, the people.

It should be stated that discussion within the group was of a general nature and any references to the five cases mentioned here were for illustrative purposes only.

B) Problem Typology

Discussion at first centred on the typology of the problem at hand, which presupposed that certain characteristics linked to the formulation of the problem would have a decisive impact on the relationship between participants.

1) Problem Identification

–problem identified by authorities in anticipation of social needs;
–problem identified by beneficiaries in reaction to a social dysfunctioning which had been ignored;
–problem identified by researchers.

2) Degree of Distribution

–social distribution:
– problem concerning one corporation
– problem concerning several corporations
– problem of general (or national) interest

–geographic distribution:
– village
– region
– country

3) Problem Time Frame

–short- or medium-term
–long-term

Three types of stakeholders were the subject of debate: beneficiaries, policy-makers and researchers.

Generally, it was stressed that the widest possible participation of stakeholders was desirable. One reservation was expressed, however, with regard to the participation of policy-makers, which in some cases could provoke the creation of obstacles when they felt their interests were threatened.

Moreover, the group agreed that the relationship between policy-makers and beneficiaries affected and sometimes directly shaped the relationship between researchers and policy-makers or between researchers and beneficiaries.

C) Factors Linked to Stakeholder Groups which Influence Success or Failure

1) Beneficiaries

The most important factors identified were the following:

–A high degree of structuring is a positive factor: method of representation and organization (unions, associations, etc.); existence and nature of leadership;

–A high degree of cohesion among beneficiaries is also a positive characteristic: degree of cohesion of interests at stake;

–Participation in problem definition and in implementation of research results created a feeling of ownership among beneficiaries with regard to the problem and was a factor in success;

–Related to the previous factor is the ability of beneficiaries to intellectually grasp the central issue of the project and the newfound knowledge which is a consequence of the research;

–The ability of beneficiaries to lobby policy-makers was considered to be the most important factor. It should be pointed out, however, that there is no direct link between beneficiaries' involvement in the project and policy influence.

2) Policy-makers

The most important factors identified were the following:

–Involvement by policy-makers in integrated research is generally desirable, particularly in terms of opportunities for utilization of research results. Cases do exist, however, where the participation of policy-makers could result in the creation of obstacles and lead to the failure of the project;

–The openness of the political environment in which policy-makers work is a critical factor in the success of the integrated research project;

–The institutional characteristics of government (flexibility, obstacles) are important factors in the success or failure of the project;

–The negligible capacity of African States to assimilate research results is often a factor in the failure of projects which are implemented;

–The degree of cohesion of policy-makers and a lack of conflict of interest can also be factors in the success or failure of integrated research;

–The degree of interest in research displayed by policy-makers as well as their ability to comprehend the research results may also play a part in the success of a project;

–The high degree of "nomadism" among policy-makers is a cause of failure because of the lack of continuity. This characteristic also results in policy-makers favouring short-term projects over long-term projects.

3) Researchers

Important criteria identified during the discussion are as follows:

–Their level of scientific competence;

–Their ability to work/communicate with beneficiaries and policy-makers;

–Their openmindedness and mental attitude towards integrated research (considered by many members of the group to be the decisive factor);

–The critical mass of researchers governs the impact of the research itself;

–The manner in which researchers are recruited (consultants, academics, recruited by policy-makers, by beneficiaries, etc.);

–The degree of continuity among members of the research team.

D) Participation and Partnership

Overall, members of the working group were in agreement that the participation of beneficiaries at the various levels of the project is one of the key factors in the success or failure of research projects.

In order for their involvement to be effective, beneficiaries must be informed throughout the research process. A painstaking effort at popularization is therefore in required.

In terms of the possible partnerships formed during research projects, it was advised not to count too heavily on the contribution of consultants inasmuch as the continuity of researchers had to be a priority. It was also stated that collective memory, which is related to continuity, is an asset for the research team.

Members of the group agreed that NGOs are key players in the implementation of INTESEP-type projects. Questions raised essentially concerned their capacity to carry out research. It was emphasized that in trying to make research institutions out of NGOs they may be pushed into a role they are not necessarily ready for. In fact, although NGOs generally have good knowledge in the field, they do not always have the human resources required to perform classical empirical research. It was suggested, therefore, that the involvement of NGOs in INTESEP projects be based on their objective capacity.

Jean-Michel Labatut
August 4, 1994

Summary of Focus Group Three's Discussion On Institutional Aspects of Integrated Research

The questions for this working group's discussion related to the institutional aspects of integrated research. These were :

a. Describe the institutional arrangements and procedures that are necessary for conducting integrated research.

b.What is the role of NGOs; local and national governments; universities and research institutions in conducting integrated research and their contribution to the formation of integrated policies ?

c. Give two examples, for each category of institution, of their roles in conducting integrated research and contributing to the formation of integrated policies.

We began with a survey of **INTESEP research entry points** in institutions at various levels of society:

. At the university level, the first preference would be research institutions such as Institutes for Development Studies or Centres for Area studies etc. as they tend to be crossdisciplinary in their membership. If there are no such institutions, then the Faculty of Social Sciences or the Office of the Vice Chancellor could serve as the entry point and other disciplines could be approached through this faculty or office.

. National research institutions such as forestry research centres etc.. These tend to be discipline based and linked to sectoral policy advice.

. Regional institutions / inter country umbrella bodies such as CODESRIA

. Non-profit organizations which can have an indirect impact on policy since they are frequently lobbyists for change and have an empowering role in making communities more knowledgeable about issues affecting them. The point was made that community mobilizers or activists who are close to the grass roots might be better used as implementors than researchers (this statement was a cautionary note against a trend towards using community level workers as researchers in order to make the process participatory- this can affect the quality of the research findings).

Criteria for selection of an institution for INTESEP research should include attention to these three factors :

. that the institution be broad- based (have more than one discipline in it, not necessarily both natural and social sciences although that would be preferable)

. that it be organized in a way that there is a relationship with policymakers. Policymakers were defined loosely as those who contribute to the policy process i.e. not just lawmakers but all those who can influence and contribute to policy.

. that it have a track record for good quality research which has had policy relevance.

Commenting on **the role of the various institutions in integrated research**, the group noted the following :

. NGOs have a major role in mobilizing people at the problem definition stage. Research NGOs are different from the community-based organizations which are action-oriented. The participation of communities through NGO facilitation is essential in many development research projects since there are answers resident in the communities that are often overlooked by policymakers; their knowledge should be tapped; and research findings should be checked with the community.

. Local and national governments' involvement is enhanced when there are decision-makers who are supportive of environmental concerns. They have a role to play at the problem definition, data collection and dissemination stages. They are also vital to the establishment of a regulatory framework and incentives to change social and economic behaviour vis a vis environmental issues. The role of government has tended to be sectoral, but needs to become intersectoral. The sectoral funding of research and planning within government has tended to make policy more sequential (e.g. the belief " economic growth first and the rest will follow") and disaggregated. Instead, appropriate weight should be given to the three areas of environment, economic growth and social welfare in any development planning efforts.

. Universities and research institutes need to remain open to new ideas even when governments hold more rigid points of view. Interdisciplinary studies should be encouraged and the incentive system re-structured to promote this.

. Regional research organizations have a problem of impermanence as they are almost always supported solely by donors and are set up to respond to a particular need. While the debate continues on the most appropriate institutional form and basis of these organizations, their work could move towards greater support of integrated research and an emphasis on environmental issues.

On **procedures for promoting integrated policy research**, the following suggestions were made :

. Training on interdisciplinary research methods and policy inputs should be built into the research methodology and the budgetary implications of this should be recognized.

. Dissemination workshops should be encouraged.

. IDRC should consider developing a database on environmental research institutions

. Environment as an area for research should be incorporated into the institutional research agenda of the institutions identified above as entry points.

. Integrated research work should be encouraged even if initially it means working across social sciences only and not the natural sciences.

. Policymakers should be involved throughout the research process so that there is a sense of co-ownership of the research.

. Policymakers' sensitization to environmental issues could be facilitated through workshops on environmental impact assessment.

. Institutions need to recognize and build capacity for leadership in integrated research. In institutions, there should be senior personnel with adequate knowledge of networks and expertise in various areas for them to be abe to pull in the right people form different disciplines and institutions for different projects. Leaders need to have the ability to mobilize and negotiate with people of varying backgrounds.

. Stabilization of research capacity is needed. Capacity building efforts should recognize the current " nomadism" of researchers and its implications for supporting morale and the material requirements of researchers. Most African institutions as they presently stand are not capable of sustaining long-term research.

. The importance of adequate "rewards" was emphasized. The senior scholars are often lost to the national research arena due to the higher rewards of the international " circuit".

Examples of integrated research in the region were cited by the participants.

. NISER (the Nigerian Institute for Social and Economic Research?) considers itself " multidisciplinary in structure and interdisciplinary in operation" and was involved in a health project which was marked by vertical integration between policymakers and researchers in that the Ministry of Health personnel were involved in the design of the instrument, the pre-test and the implementation of the research recommendations.

.the Mazingira Institute, a Kenyan NGO, did an interdisciplinary project on urban food and fuel in which members of six disciplines took part. the two main weaknesses of the project were that it was not demand driven so there was little direct policy impact , and it did not establish the vertical linkages and was therefore not participatory. It did however serve to generate knowledge and raise awareness about an important issue.

. the University of Nairobi participated in a project on the selection of small towns to be serviced with roads and other infrastructure. The other main participant was the Ministry of National Planning. There was both vertical and horizontal integration in this project. The team of researchers included architects, planners, ecologists. The policymakers and "opinion leaders" included Ministry officials, representatives of private sector commerce and farmers. The report became a document for use by the government.

. MDP (the Municipal Development Program), an umbrella body looking at issues of decentralization in the region, has been implementing a project in Swaziland where there is strong vertical linkage between policymakers and community. The project however is an example of what can happen when internal factions amongst the policymakers threaten the research process. The lesson from this experience has been that the researchers must always maintain ultimate control of the research process if it is to run its course and achieve its objectives.

. the University of Lagos and UNICEF designed and conducted a successful project on the establishment of child development centres in Nigeria. The project had active involvement from the government, as well as nutritionists, pediatricians, child psychologists and community based workers. Training was incorporated in the project through " methodological meetings" and a writing workshop on the final

report writing workshop. The project was " top-down" effort but has been successful and is to be replicated in Kenya and Tanzania. Part of the success can be attributed to the leadership of the project director who had qualifications in both the natural and social sciences.

Common to all these examples were the following characterisitics:

. They all involved a variety of disciplines and had the involvement of academics
. They all had potential for policy impact
. They raised intersectoral issues.

Issues of interest to donors were :

. Sustainability of the research involves support over a period of time.

. There need to be provisions for some sort of follow-up to see if the policy relevant information is in fact used.

. The parameters of integrated research are very broad. There must be clear boundaries/limits drawn up during the problem definition stage. The stakeholder input at this stage should be incorporated even if it means some revision to the original research idea.

. The evaluation component should be a self-conscious, self-revising mechanism rather than an after-the-project activity.

. Interpersonal relationships during the research process can be affected by dissatisfaction with the allocation of resources between the different individual researchers and their research activities.

. Physical proximity between the different researchers offices at least at the early stages of the project is helpful. Efficient means of communication, electronic or personal, are necessary throughout the research process.

.With the help of donors, a reward system for interdisciplinarity and adequate outlets for the research findings (e.g. through publication in journals that respect integrated research efforts) need to be established.

Through support for research, Canada's **International Development Research Centre (IDRC)** assists scientists in developing countries to identify long-term, workable solutions to pressing development problems. Support is given directly to scientists working in universities, private enterprise, government, and nonprofit organizations.

Priority is given to research aimed at achieving equitable and sustainable development worldwide. Projects are designed to maximize the use of local materials and to strengthen human and institutional capacity.

Led by the dedication and innovative approach of Third World scientists — often in collaboration with Canadian partners — IDRC-supported research is using science and technology to respond to a wide range of complex issues in the developing world.

IDRC is directed by an international Board of Governors and is funded by the Government of Canada. At the United Nations Conference on Environment and Development (UNCED), IDRC's mandate was broadened to emphasize sustainable development issues. IDRC's international network and expertise will be used to help the world move toward implementation of UNCED's Agenda 21 program of action.

Le Centre de recherches pour le développement international (CRDI) soutient des travaux et des activités de recherche dans les pays en développement de manière à assurer un développement durable et équitable à l'échelle mondiale.

Les recherches sont menées par des scientifiques affiliés à des institutions, à des entreprises, à des gouvernements ou à des organismes de développement. Des partenaires canadiens y contribuent régulièrement.

Les projets soutenus financièrement ou techniquement par le CRDI privilégient le recours aux ressources locales et s'appuient sur le génie, l'intelligence et le sens de l'innovation des chercheurs des pays en développement.

Le CRDI contribue au renforcement des connaissances et des capacités de recherche des pays en développement pour lutter contre la pauvreté et pour améliorer les conditions de vie et l'environnement des populations affectées.

Le CRDI est dirigé par un Conseil des gouverneurs international. Ses fonds proviennent du gouvernement du Canada. La Conférence des Nations unies sur l'environnement et le développement (CNUED) a choisi le CRDI pour participer à la mise en oeuvre du développement durable à l'échelle planétaire. Le CRDI verra à concrétiser le programme Action 21 élaboré lors du Sommet de la Terre.

Con el fin de asegurar un desarrollo sostenible y equitativo a escala mundial, **el Centro Internacional de Investigaciones para el Desarrollo (CIID)** financía trabajos y actividades de investigación en los países en desarrollo. Las investigaciones están a cargo de científicos que trabajan en instituciones, empresas, gobiernos u organismos dedicados al desarrollo. Estos científicos reciben regularmente la colaboración de sus colegas canadienses.

Los proyectos apoyados financiera o técnicamente por el CIID favorecen el uso de recursos locales y se apoyan en el talento, la inteligencia y el sentido de innovación de los investigadores de los países en desarrollo.

El CIID contribuye al fortalecimiento de los conocimientos y a la capacidad investigativa de los países en desarrollo para luchar contra la pobreza y mejorar las condiciones de vida y el medio ambiente de las poblaciones afectadas.

Un Consejo de Gobernadores Internacional tiene a su cargo la dirección del CIID, cuyos fondos provienen del Gobierno de Canadá. La Conferencia de Naciones Unidas sobre el Medio Ambiente y el Desarrollo (CNUED) ha seleccionado al CIID para participar en la realización del desarrollo sostenible a escala mundial. El CIID se encargará de hacer realidad el programa Agenda 21, elaborado durante la Cumbre de la Tierra.

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